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Book Review – *Revisão de Livro*

TITLE: FORENSIC DENTISTRY

Authors: David R. Senn, Paul G. Stimson

Publisher: CRC Press.

Year: 2010 (2^a. Ed).

Pages: 470p.

Language: English.

Reviewed by:

Ademir Franco. Doutorando em Ciências Biomédicas (Odontologia Legal), Katholieke Universiteit Leuven, Bélgica. franco.gat@gmail.com

INTRODUCTION

Based on the definition of the Webster's New International Dictionary, Millar¹ highlighted that a scholarly book review consists of a "descriptive and critical or evaluative account of a book" written briefly from the perspective of a scientific reviewer.

Different purposes may be attributed to a scholarly book review². In general, this modality of manuscript is designed to compile extensive scientific information with a critic, but never offensive³, point of view. Next, the compiled information is provided to the reader in order to update his knowledge with innovative science, or to warn about hazardous and uninteresting literature to be avoided^{2,4}.

As pointed by Burnard⁵, summarizing information in a scholarly book review is a difficult task that may result with a significant or null contribution to the readership. Additionally, giving a critic point of view on someone's work consists of a subjective procedure considering that books may please the readership differently⁵.

Despite that, a book review must be interpreted also as a potential tool for introducing relevant literature to a certain population that is able to formulate its opinion – agreeing or not with the reviewer.

The primary target of the present book review is the readership of the Brazilian Journal of Forensic Odontology

(RBOL). Currently, is estimated that Brazil has nearly 19% of all the dentists in the world⁶. More than 219.000 professionals are registered in the Brazilian Federal Council of Dentistry⁶. Specifically, Brazil is ranked the #1 considering the number of specialists in Dentistry⁷. Among these specialists, 644 are registered as Forensic Dentists up to September, 2016⁸. The readership of RBOL is represented by a large amount of these professionals, indicating their willing for continuous education.

Based on that, the present book review aims to update the readership with a book review that reinforces *Forensic Dentistry – 2nd edition*⁹ as an essential tool in the armamentarium for the forensic practice. It is important to note that this book was scientifically reviewed at least twice by other authors^{10,11}. However, an additional review published by the RBOL is justified specifically to reach the maximum number Forensic Dentists in Brazil and to contribute for their education in the field.

CONFLICTS OF INTEREST

This book reviews was performed respecting the potential conflicts of interests raised by Burd¹². In this context, no payment was received for performing a favorable review. Additionally, no similar or competing text book was written by the author of the present review.

REVIEW

Forensic Dentistry – 2nd edition was organized by David Senn and Paul Stimson (Figure 1). Both authors are experienced and known professionals with academic and practical activities involving forensic dentistry, including their founding and administrative role within the American Society of Forensic Odontology (ASFO).

The publication of a second edition of the book (2010) was mainly justified due to the gradual growth of technology experienced in forensic dentistry since the first published edition (1997) – Figure 2. As expected, the second edition was improved with an updated content more compatible with the contemporary forensic practices. Table 1 shows the content structured along the book.

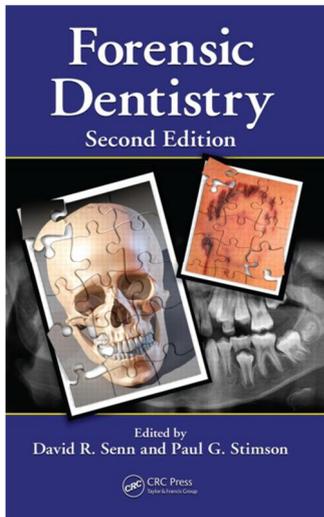


Figure 1 – Book cover of 2nd edition (2010).

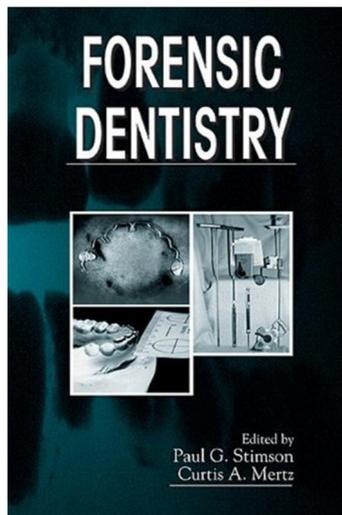


Figure 2 – Book cover of 1st edition (1997).

Table 1 - Summary

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- *Science, the Law, and forensic identification*
 - *History of forensic dentistry*
 - *Scope of forensic odontology*
 - *Death investigation systems*
 - *Forensic medicine and human identification*
 - *Fingerprints and human identification*
 - *DNA and DNA evidence*
 - *Forensic Anthropology*
 - *Forensic dental identification*
 - *Forensic dental radiography*
 - *Forensic dental photography*
 - *Dental identification in multiple fatality incidents*
 - *Age estimation from oral and dental structures*
 - *Bitemarks*
 - *Abuse: the role of dentists*
 - *Jurisprudence and legal issues*
 - *Evidence management*
 - *Future of forensic dentistry*
 - *USA Federal and State Court cases of interest in forensic odontology*
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Interestingly, the book starts with an overview of forensic identification from the scope of science and Law, leaving the history of forensic dentistry for the next chapter. More specific, the first chapter brings an updated panorama of the issues currently faced in forensic Dentistry (an observation fits in this moment, only to explain that both terms “forensic dentistry” and “forensic odontology” are used along the book). The updated panorama addressed in the first chapter highlights mainly the problem-based scenario of bitemarks after the acceptance of (retrospective) DNA in Court. More important, bitemarks analysis is approached in this chapter as an evolving science that is constantly challenged in practice.

In the following chapter, the history of forensic dentistry is structured systematically. This chapter was designed in a very informative way and illustrated with important historical events that marked and revealed the importance of forensic dentistry worldwide, such as the publication of *L’art dentaire en Medicine Legale* (Amoedo, 1898)¹³. For a more detailed description of this book, the classical book review previously published in RBOL (Silva & Franco, 2016)¹⁴ is recommended.

Next, the main fields of forensic dentistry are introduced briefly, such as

human identifications, multiple fatality incidents, bitemarks, abuse, age estimation, and criminal and civil litigation. The chapters reported in sequence are directly linked with this chapter, providing a deeper scope of each field in forensic dentistry.

Certainly, chapter 4 is one of the highest moments of the book. Specifically, this part consists of a complete report on the death investigation systems from old Roman periods to contemporary U.S. American systems. This type of information is considerably scarce in forensic dentistry books, making of chapter 4 an essential input to the scientific literature.

Forensic identification represents one of the procedures in death investigation systems (protocols). Thus, chapter 5 comes subsequent to explore human identification in the context of forensic medical aspects, such as the role of visual recognition, personal belongings, tattoos, scars, and anthropology.

The primary scientific pathways considered by INTERPOL (2014)¹⁵ as reliable for human identification are explored in chapters 6 and 7, namely fingerprint and DNA analysis, respectively. The content provided in these chapters is accessible for forensic dentists (possibly the main readership of the book). Chapter 6 provides the necessary information to make the readership familiar with this field, while chapter 7 is written in more detail with especial parts exploring the collection and use of DNA from the oral cavity. This chapter is especially important because in several medico-legal institutes dentists are responsible for DNA procedures related to human identification.

Chapter 8 retakes in a deeper description the use of forensic anthropology as a fundamental source of complementary information for of human identification. This chapter is structured straight to the point of interest for dentists, which includes the information related to the biological profile of the victim(s).

Chapter 9 could be structured preceding chapter 8, making a sequential analysis of the primary pathways for identification (together with fingerprints and DNA analysis). In this chapter, forensic dentistry itself is explored for human identification. In the beginning of the chapter fingerprints, personal belongings, tattoos, scars and the history of dental identification are explored in few paragraphs again. In one hand, this information could be interpreted

superficially as a repetition of the previous chapters. However, on the other hand, the repetitions of information should be interpreted more positively, because it makes chapter 9 an independent material that can be easily read separate from the other – even if the readership is not much familiar with the topic. This chapter differs from most of the forensic dentistry books by having a separate discussion on the importance of Statistics and Mathematics to quantify the potential discrimination of dental features. The chapter ends with guidelines for human identification established by the American Board of Forensic Odontology and tips for identifications in the forensic practice. It makes the book not only a theoretic material, but also a tool highly applicable in the practice. Is important to note that in this part of the book the technological advances in forensic dentistry are approached, maintaining the material updated and contemporary.

Chapters 10 and 11 were designed to provide to the reader notions of imaging in general. Chapter 10 presents a more summarized content from a forensic scope. In this chapter information on film/image processing could be shortened, and major attention could be given to more contemporary technology, such as virtual autopsy. Oppositely, chapter 11 brings the forensic photography to a highly applicable level and illustrates well the forensic casework in which photographic registration is essential – namely bitemark analysis.

In Chapter 12, human identification is brought back in the context of multiple fatality incidents. The chapter is well written in a linear way. The characterization of incidents is given in a very understandable manner and especial attention is directed to the role of dentists in these cases.

Chapter 13 explores the field of dental age estimation. This topic itself is large and complex enough to be addressed in an independent book. The authors succeeded in provided an overview of the content, navigating from methods dating from the 50's to Radioactive Carbon-14. The chapter was written with nearly 170 references. However, major attention could be given to more recent statistical methods and population-based surveys accomplished within European centers of forensic research and education.

Chapter 14 is definitely the highest part of the book. Due to the wide experience of the authors with bitemark

analysis, this chapter brings 60 pages of interesting, well structured and applicable information. The content explored goes from the history of bitemark evidence to the current challenging panorama. From pages 351 to 358 to chapter goes deeper in recent studies on bitemarks, showing that the authors focused on the importance of scientifically examining the topic in order to improve its consideration in Court. For the readership less familiar with bitemarks, the chapter also provides information on definitions, characterizations, and classifications to allow the familiarization with the field. The future of bitemarks is addressed in 364 and remains contemporary 5 years after the publication of the book, suggesting the needs for further researches in the field.

Chapter 15 is related to violence itself, more specific the abuse involving children, elderly, intimate partners, and pregnant. Child abuse is a topic commonly addressed in forensic dentistry books. However, the other modalities of violence are not usual, making this chapter an interesting, necessary, informative material for the readership.

Chapter 16 reports information on jurisprudence. Despite referring to the U.S. American Legal system and Constitution, this chapter brings a material prepared by dentists and lawyers, combining knowledge and experience in both fields to provide a great basis for the reader. Most of the information provided in this chapter is applicable and understandable within different countries and legal systems.

Evidence management is the topic addressed in chapter 17. This chapter works towards the conclusion of the book by corroborating the fact that the content published is, again, innovative compared to other books in the field. Evidence management in forensic dentistry is often approached combined in other chapters (multiple fatalities incidents, human identification and bitemarks). The separated space provided for this topic confirms its importance in the forensic practice.

Chapter 18 marks the end of the book, but also induces to the continuous process through which forensic dentistry keeps evolving. This chapter starts with an analysis on the history of forensic dentistry and ends with the future of this specialty considering the constant development of science and technology, its pitfalls and challenges.

This book review screened one of the most contributive publications in the scientific literature related to forensic dentistry. *Forensic Dentistry – 2nd edition* is an essential tool in the education process from theory to practice. Five years after its publication, this book remains completely contemporary, addressing the most important topics inherent to forensic dentistry.

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