

# INTRODUCTION

The newspaper headline read “Sleepwalking Could Become Excuse for Almost Anything” (Dietrich, 1999). The reporter was referring to the 1999 first-degree murder trial of Scott Falater happening in Phoenix, Arizona. Falater had stabbed his wife of 20 years 44 times and left her lying in the backyard near their pool. He had left her, entered his house, and returned 15 to 20 minutes later and found that she was still moving. He then left again, entered the house, and exited the garage wearing work gloves, dragged her to the pool, pushed her in, and held her head under water. His defense? He had done everything while in a sleepwalking state. He had no memory of his actions, and according to his defense team, including three sleep expert witnesses, had no criminal intent.

The reporter’s headline indicated that she accepted that sleepwalking existed but not that complex or violent behaviors such as stabbing or drowning resulting in death could be part of, or result from, a sleepwalking episode.

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*Sleepwalking, Criminal Behavior, and Reliable Scientific Evidence: A Guide for Expert Witnesses,*  
by M. R. Pressman

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Rather sleepwalking was an “excuse,” something to say when you have no other explanation or defense. It was “junk science,” a defense that had no basis in valid and reliable science, presented by “experts” who were “hired guns” or advocates for the defense (Huber, 1991).

Sleepwalking is an uncommon defense for murder and other crimes, but it has been used successfully. In a 1992 case in Ontario, a Canadian man was acquitted of the murder of his mother-in-law and attempted murder of his father-in-law based on the defense that he had been sleepwalking. The front page coverage of this case worldwide—not to mention the made-for-TV movie about the case—may have encouraged defense attorneys to consider whether the sleepwalking defense might be effective. Indeed, sleepwalking defenses have since been presented with varying success for defendants who face murder, attempted murder, assault, sexual assault, vehicular homicide, and driving under the influence (DUI) charges.

Scott Falater, the defendant in the Phoenix stabbing/drowning case, was found guilty of first-degree murder and sentenced to life without parole. However, it was far from a straightforward case. It represented a complex example of “battling experts” that touched on issues of law, automatism, scientific evidence, sleep science, and duties of the expert witness among other forensic issues. How is it that two (or more) experts with similar education and experience, even with identical board certifications, with access to the same case materials, can arrive at completely different conclusions? Please consider that in the Falater case, five sleep experts, including me, were qualified by the court and testified: two for the prosecution and three for the defense. Four of the experts, three psychologists and a medical doctor, held the identical board certification in sleep medicine. The fifth expert, although not board certified, was a pioneer in the field and had indeed influenced modern scientific views of sleepwalking. These experts presented to the jury sometimes starkly different testimony. The prosecution experts for the most part relied on descriptions of the defendant’s behaviors during the episode itself as being inconsistent with current scientific knowledge of sleepwalking. The defense experts primarily considered circumstantial or indirect evidence of sleepwalking—family history, personal history, prior sleep deprivation, caffeine use, and stress before the episode.

The layperson—that is, the juror—may have little understanding of modern scientific concepts of sleepwalking. A Google search of the term *sleepwalking* retrieves dozens of newspaper headlines, such as “U.S. Sleepwalking Towards Nuclear War.” or any number of sports teams who had “sleepwalked” to bad losses. These descriptions are somewhat vague but suggest that sleepwalkers are unmotivated, awkward, and perhaps cognitively impaired. However, sleepwalking and related disorders have been the topic of increasingly sophisticated scientific research revealing a very complex disorder of the brain. A search of the National Library of Medicine via its PubMed online

portal for the period 2006–2016 found more than 3,500 citations for *parasomnia*, the general category for sleepwalking and related disorders, including 317 for sleepwalking itself. The literature thus shows that scientific interest in these sleep disorders is not rare and has become much more scientifically sophisticated, involving research with state-of-the-art brain imaging. Much new information has been uncovered regarding the complex and dissociated nature of human consciousness in sleep.

However, these new research findings often do not appear to have found their way to forensic experts, lawyers, and even to board-certified sleep specialists. The field for many remains based on out-of-date and even contradicted science. This at a time when evidence-based medicine, a Kuhnian type revolution in the medical sciences, has moved front and center (Davidson & Guzelian, 2012; Marwick, 2000) and has begun to have a dramatic effect on medicine and health care (Davidson & Guzelian, 2012). Generally accepted theories of medical disorders and their treatment are being carefully examined to see whether they have any empirical basis in science. What is the proof that a particular diagnostic method, medication, or treatment actually works? Evidence-based medicine asks whether modern scientific research methods—proper subject selection, validated methods, replication, statistical analysis and interpretation of results based on those methods—can confirm long-held practice or theories, or will they be contradicted and require modification or abandonment? Those theories and diagnostic procedures that fail to meet these standards should be relegated to the “junk science” bin and ideally replaced by other practices and theories with proven validity and effectiveness. Yet, all revolutions have counterrevolutionaries who prefer things the way they were, even if they are not exactly scientific. Moreover, scientific publishing practices, such as failure to cite contradictory research or to update the scientific literature via PubMed or other databases, often appear to assist in slowing scientific progress.

A similar preference for reliable and valid science-based facts has slowly been finding its way into courts in the United States and elsewhere. The lay public, and for that matter many health professionals and potential expert witnesses, may believe that expert testimony will be evaluated by the jurors, judge, or court based on the well-known principle of *reasonable doubt* (Cartwright & Guilleminault, 2014). However, what they often do not know is that scientific evidence must first meet a prior, separate legal standard or the jury may never hear the expert testimony. In all state and federal courts in the United States, expert witnesses and their scientific evidence must undergo a separate evaluation based on legal principles and established law of what is reliable scientific. In most jurisdictions, judges are the powerful gatekeepers of scientific evidence and may exclude all or part of an expert witness’s testimony or prevent the expert from testifying at all. Put more succinctly: An

expert's testimony is "not admissible just because someone with a diploma says it is so" (*United States v. Ingham*, 1995; see paragraph 22).

Is a claim of sleepwalking or sexual behavior in sleep tantamount to "a get out of jail free card," or will it be laughed out of court? It is important to acknowledge that sleepwalking and sexual behavior in sleep are established diagnoses accepted by the leading classification systems including the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* of the American Psychiatric Association (2013) and the *International Classification of Sleep Disorders (ICSD-3*; American Academy of Sleep Medicine, 2014), published by the leading sleep society in the United States. They may be admissible as criminal defenses. It is a proper role for an expert witness to evaluate the evidence and provide testimony to support this defense. However, a claim of sleepwalking or sexual behavior in sleep can also be validly judged an "excuse" or desperate, last-ditch defense to criminal acts lacking support in valid and reliable scientific evidence.

How is the court to distinguish between the bona fide sleepwalker who may have involuntarily committed an act that is otherwise criminal and an individual who voluntarily committed a criminal act and is now using the sleepwalking defense to avoid the legal consequences of his actions? How is the judge to determine who is a sleep expert and what is reliable sleep science? How can the triers of fact sort through the often conflicting expert testimony of multiple experts? The forensic sleep medicine expert making use of up-to-date, reliable, and valid knowledge in sleep research, clinical sleep medicine, forensic methods, the legal basis of scientific evidence, and expert testimony can assist the trier of fact or court in this process.

This book is an attempt to provide a method and knowledge for examining evidence and testimony that has a basis in reliable and sound sleep science. It attempts to provide both the proper scientific and forensic context for the expert witness. The following chapters will lead the reader through the different types of scientific knowledge and forensic practices that need to be understood and that can be brought to bear on the evaluation of criminal cases, both for the prosecution and defense.

This volume also introduces a new level of analysis and expert testimony based on behavioral analysis of the sleepwalker's actions before, during, and after the criminally charged episodes. Prior approaches have been based on vague notions of what causes sleepwalking or on primarily indirect or circumstantial evidence. The current scientific study of the sleepwalker's brain and cognitive function has determined that frontal and parietal areas are profoundly deactivated during sleepwalking episodes while motor areas remain active. If so, sophisticated cognitive functions such as planning, memory, or social skills should be very limited or absent. Thus, by closely examining the sleepwalker's actions and behaviors, the expert can determine whether

witnessed or inferred behavior should or could be possible during an alleged sleepwalking episode or more likely occurred during wakefulness, alcohol intoxication, or another state of consciousness. If the alleged sleepwalker demonstrates cognitive behaviors possible only during wakefulness, then sleepwalking can be ruled out no matter how many relatives have a history of sleepwalking or no matter what friends and relatives report.

Additionally, when appropriate, this book deals with general forensic, legal, and scientific concepts often unknown to “experts” that should guide the practice of forensic sleep medicine and may be of value to other clinical health professionals considering forensic work.

## OVERVIEW OF CHAPTERS

Forensic sleep experts draw on a broad knowledge base, including medical, psychological, and forensic science. This book serves as an introduction to those areas rather than as a substitute for on-the-ground training. As such, Chapter 1 offers a brief introduction to sleep and sleep disorders, and Chapter 2 introduces essential forensic issues such as legal standards for admissibility of scientific evidence in court, the duty of the expert witness, and constraints put on expert witnesses. Chapter 2 also highlights landmark court decisions regarding scientific evidence and the role of the judge as gatekeeper and describes the qualifications of a sleep expert. Sleep medicine is free-standing specialty with its own board certifications, fellowships, scientific journals, textbooks, and accredited sleep disorder centers; thousands of new scientific publications in the field are added each year. So this chapter is only a brief introduction with references for more in-depth reading.

Chapter 3 presents basic information on parasomnias—the diagnostic category that includes sleepwalking and related disorders most often involved as a defense in criminal cases. It explores the theoretical underpinning of sleepwalking, including neuropathophysiology during sleep and wakefulness and its potential relationship to violent behavior. It also examines the role of the leading classification systems, the *ICSD-3* and *DSM-5*, in general and specifically in forensic sleep medicine. Other issues regarding the pronounced differences between clinical practice and law are also reviewed. This chapter illustrates the diagnostic classification and differential diagnosis of parasomnias. Not everything that goes bump in the night is sleepwalking. An emphasis on the characteristics of non-rapid eye movement (or NREM) disorders of arousal (sleepwalking, sleep terrors, and confusional arousals) is compared with other medical or psychiatric disorders. Chapter 4 describes the use and abuse of polysomnography or sleep studies. Sleep studies are exceptionally complex and prone to misinterpretation by the uninformed. They have no

retrospective value but are often performed months or years after the date of a violent episode.

Chapters 5 and 6 focus directly on the process of pretrial assessment and the gathering and presentation of direct and indirect evidence. Suggestions are provided for taking a general sleep history and a more specific history of parasomnias along with questions for the defendant who claims amnesia.

Chapter 7 includes detailed descriptions of criminal cases involving sleepwalking or sleep terror defenses for murder and attempted murder in the absence of alcohol or drugs. Chapter 8 reviews the scientific evidence for a popular form of sleepwalking defense: the alcohol-induced sleepwalking or sexual-behavior-in-sleep defense. The cases are preceded by a review of the scientific literature on alcohol, sleep, and sleepwalking. Three detailed cases are presented, involving murder, rape, and DUI, respectively. Chapter 9 examines the validity and reliability of drug-related sleepwalking and sleep-driving defenses. Two cases, one criminal and one civil, are presented. Chapter 10 presents conclusions.

Throughout this book, I address general forensic, legal, and scientific concepts that should guide the practice of forensic sleep medicine. As a further aid to readers, the book includes thoughts for reflection following the case presentations. The idea here is to allow time for the basic concepts to sink in and for readers to apply them to real-world scenarios in which they may be involved or have heard about. Summary tables are provided throughout to help readers synthesize and easily refer to data such as legal criteria, diagnostic comparisons, and drug side effects.

It is not the intent of this volume to reargue past criminal cases or challenge the decisions of the juries and courts. The reader should understand that the jury or court may have had good reason to minimize or even ignore the scientific evidence or the expert. No matter how many advanced degrees or years of experience the expert has, no matter how solid a scientific case the expert makes or believes he or she has made, there is no guarantee that the triers of fact will be convinced.

Nevertheless, the well-trained forensic sleep expert has a duty to inform and educate the triers of fact regarding the scientific issues. It is my hope that when you finish reading this book, you will feel equipped to seek professional development opportunities leading to board certification, and perhaps even add forensic sleep medicine to your service offerings.