subtle misperceptions has real consequences and those consequences can be directly attributed to misunderstood biases and the analyses based on those biases. We recommend that every clinician, researcher, and administrator takes the time to read this book and consider his or her own biases. 

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The Good Nurse is the true story of Charles Cullen, a nurse who likely took the lives of hundreds of patients in nine hospitals along the New Jersey–Pennsylvania border, over a 16-yr period from 1987 to 2003. If these estimates are correct, Cullen would be one of the most prolific serial killers in U.S. history. Cullen, who had a substantial background of mental illness and multiple suicide attempts, accomplished his murders by injecting lethal doses of medications, such as insulin and digoxin, while working as an intensive care nurse. Earlier this year, he was interviewed for a 60 Minutes segment; it was the first time this television news show had ever interviewed a serial killer.

Medical serial killers are well known throughout history and are often given the label “Angel of Death.” Although the term invokes altruistic motivations, very few of these nurses or physicians killed to relieve suffering. Most are like Cullen— they possess a complicated dysfunctional and insecure emotional life that leads them to a position of power where they become euphoric while witnessing the consequences of their actions, or as they rise to hero status during the subsequent rescue.

The Good Nurse is written by Charles Graeber, a freelance journalist and former medical student and scientific researcher. He conducted a series of interviews with Cullen (from prison) as well as with the detectives who cracked the case and a host of supporting characters.

The story of Charles Cullen is described in two roughly equal parts. The first is Cullen’s personal story, that of a complicated and insecure psychopath who was also a very competent and reliable nurse. As a sensitive and enduring listener, he befriended female coworkers easily, and was generally well liked by those who did not know his inner secrets. Graeber describes how Cullen sidestepped the hospital’s electronic drug dispensers and medical record systems, so his removal of certain drugs became undetected and largely untraceable. Much of this first section describes the details of how Cullen poisoned his victims, with information presumably learned from Cullen himself. After coworkers and hospital officials became suspicious because of a pattern of inappropriate deaths on Cullen’s shifts, they conducted their own internal, superficial, and ineffective investigations, each of which led to Cullen being asked to resign, with the proviso that he would be issued a neutral letter of reference, and sometimes resulted in disciplinary action for the whistle blower. Although some hospitals strongly suspected Cullen of poisoning patients, they chose not to alert authorities because of the negative publicity that would be generated.

The case gained strength when a pharmacist at Somerset Hospital in New Jersey called the State’s Department of Poison Control to inquire about the dose of digoxin required to achieve the astronomically high levels found in the bodies of two victims after their deaths. Neither patient was ordered to receive digoxin nor was there any record of itsadministration. Massive digoxin toxicity in one patient is a mystery, but in two it is murder.

If we lived in an ideal world, at the moment of this chilling revelation, everything would have come to a halt: law authorities would have been alerted, toxicologists summoned, and the scenes of the purported crimes sealed off with yellow tape. Every needle dispenser would have been quarantined and searched and video camera footage inspected. At the very least, Cullen would have been placed on 24-h surveillance and not allowed anywhere near a patient. But none of this occurred. Dr. Steven Marcus, head of New Jersey’s Poison Control, urged hospital officials to contact law enforcement when he began to connect the dots, but did not appear to realize that his recommendations went unheeded as Cullen continued to kill. He rued this decision during a tearful moment while being interviewed for the 60 Minutes segment.

The second half of the book details the investigative efforts of the two detectives who doggedly pursued evidence of Cullen’s guilt, with the help of one of Cullen’s former coworkers, who needed considerable persuading that Cullen would be capable of such heinous activities. It reads more like a police procedural, as law authorities from New Jersey and Pennsylvania eventually realize the extent of Cullen’s murderous activities.

Reading this book, I became enraged at the system surrounding the inappropriateness of neutral professional references. Hospitals that strongly suspected Cullen of wrongdoing were unwilling to offer those suspicions to subsequent employers because of the fear of litigation for unlawful termination. Graeber takes hospitals to task for their willingness to turn a blind eye to potential problematic employees as long as the wards are adequately staffed. For example, while working at Warren General Hospital, in Warren, Pennsylvania, Cullen attempted suicide after stalking a coworker and breaking into her house in the middle of the night. As his coworkers looked on, Cullen was treated in the hospital’s emergency room and subsequently sentenced to treatment in a high-security psychiatric institution. During his stay there, the nursing office of Warren Hospital left...
him a message asking how soon his psychiatrist could clear him so that he could return to his previous position.

The Good Nurse is a solemn, but enjoyable read. I learned a lot about the paucity of hospital security systems, and I was surprised by the brazen haughtiness of hospitals in the name of preserving their bottom line. In the future, I will be more circumspect of unusual circumstances that occur in the hospital. I was surprised when my background research on this topic revealed many more medical serial killers than I had heard about. No one can predict where and when the next Angel of Death will strike, but we can state with 100% certainty that one will again appear somewhere. Unexplained medical deaths should be thoroughly examined, without deference to fear of litigation or political incentives, and neutral references should be investigated further.

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As I read the introduction to Dr. Edmond Eger’s classic text Anesthetic Uptake and Action, my mind drifted to a recent conversation with a friend. We had been discussing the PBS period drama Downton Abbey, which depicts an aristocratic British household during the early 20th century. One of the show’s main draws is the fascinating relationship between the aristocrats and the servants, a hierarchy that we can scarcely imagine in the modern Western world. The show follows the characters over many years and eventually, with global changes such as World War I, the social order shifts and buckles. As cracks appeared in the walls and plaster fell from the ceiling, my friend remarked on how easy it was to picture the benefits of overturning this society in favor of a new world. “But when old things fall by the wayside,” he asked, “have we also lost something in the process? If so, what’s been lost, and does it matter?”

Anesthetic Uptake and Action, most recently published in 1974, is a vintage almost 40 years in fermenting. It would be easy for today’s anesthesiologist to dismiss it as a dusty relic from the past, like the bygone hierarchy at Downton. “Sure, Dr. Eger’s text is a classic, the whole basis for our understanding of volatile anesthetics,” that modern person might say, “but the knowledge can be just as easily gained, with updates, from Miller’s Anesthesia, or the Barash text.” But can it? And what would be lost?

Foremost would be the story of a big idea. Uptake is foundational science, to be sure; yet, like Downton, it is also a compelling drama. Through its pages, the reader experiences firsthand the story of Eger stumbling upon a key, turning it in the lock, and discovering many of the fundamental principles of anesthesia behind the door. These principles include the effect of inflow rate on the movement of volatiles in the anesthetic circuit and lungs, the notion that end-tidal gas reflects concentration in the brain, and the minimum alveolar concentration. This book is, in many ways, the story of those and many other discoveries, and Eger makes it possible for the reader to follow along. For example, he does not just discuss the anesthetic circuits available, he discusses each type of circuit, rules for constructing a functional circuit, and how different successful combinations affect concentrations of carbon dioxide, rebreathed gases, and inflow efficiency. For any equation, the derivation is almost always included in the footnotes, and I frequently found myself with a paper and a pen, substituting equations (2), (3), and (4) into (5) and solving for some variable to produce equation (1).

These exercises deepened my understanding of the basic concepts and their interrelationships in a way that was both practically valuable and intellectually satisfying.

Furthermore, there is something to be said for reading original source documents. As an example: Judging by many texts published today, one would think that the concept of “third spacing” (i.e., the notion of a Bermuda triangle outside the intravascular and interstitial spaces into which effective circulating volume disappears) was an established medical fact on par with cardiac contractility or absorption atelectasis. But the original tracer studies that inspired the theory are methodologically flawed; subsequent, more rigorous tracer studies failed to support the initial papers. Although there are no such concerns about Dr. Eger’s work, I submit that the foundations of our specialty deserve the same serious consideration, if only to follow these ideas back to their roots and run our fingers through the soil. The health of the tree and a sense of its development are best acquired by examining the base and trunk, not the leaves.

And from the standpoint of a pure bibliophile pleasure, this book has soul, in a way that more-modern textbooks do not, the kind that can only be instilled by a man with erudition and wit. In his discussion of the minimum alveolar concentration, he exhorts the physician to “temper his manifestations” to the elderly, lest he gas an unwitting pensioner into hypotension and dysrhythmia. The graphs and diagrams recall an earlier, simpler time when patients were hand ventilated for entire procedures and vital signs were monitored by looking at the patient. The reader can almost picture Dr. Eger chuckling to himself as he added the “No Swimming” sign into one of the illustrations of the hydraulic model, a wry grin returning as he summarized that brilliant analogy as “simple pipes and puddles we have just waded through.”

So, why return to this old book now? Beyond the practical relevance of its content, Uptake is, in its own way, new to our time. We live in an age obsessed with the efficient, practical, technical, in which deep intellectual consideration of abstract ideas can feel passé. There is some vapor contained in the pages which makes the basic concepts of our specialty feel intoxicating again, that induce awe in the reader. After reading it, I wonder: