

Book Review

A History of Medicine. Third edition. Lois N. Magner and Oliver J. Kim. CRC Press, Taylor and Francis Group. Boca Raton, FL, USA. £125, 445pp. ISBN 978-1-138-10382-5.



New books on the history of medicine are always welcome, as they add to the never-ending information on this fascinating subject. This is the third edition of a popular work by Lois N. Magner and now has a co-author, Oliver J. Kim. The author(s) continue the quest to discuss only broad ideas in the field. In this, they succeed to a considerable extent, but there are obvious gaps. Topics such as medical error, medical malpractice and finances,

and paleopathology appear in the book. The authors make only a brief mention of such topics. In fact, introduction of such topics means that some important subjects are left out entirely. Organ transplant, for instance, which is among the greatest advances made in medicine, barely finds a mention in the book.

This book left me enriched with information that is not discussed in most books on the history of medicine. A major portion comes from an entire chapter on the assault of the Spanish conquistadors on the New world (central and South America). The authors discuss, in considerable detail, many aspects of the conquest, including the diet and diseases, medical practices and medicinal plants used by the indigenous peoples as well as the diseases that were transplanted into the new world. How many people were killed in the wars? From one million to 30 million, it seems, depending on whose version you accept. Of course, it is practically impossible to be able to determine the exact numbers of people for events that took place 500 years ago.

Not unexpectedly, there is an emphasis on the Americas, especially the USA. While a few pages are devoted to the thalidomide tragedy and considerable space is given to Frances Kelsey of the Food and Drug Administration (FDA), who prevented thalidomide from being sold in the USA, absolutely no mention is made of William McBride (the Australian obstetrician who actually made the connection between thalidomide and seal limbs). The death of George Washington is elaborated on to explain the state of medicine in that century (with blood-letting being the cause of many deaths, though they were being touted as cure). Likewise, medicine during the American Civil war—a topic that would not appear in the pages of most general history of medicine books—is also covered. But we do learn that much of the pioneering work on our understanding of the concept of phantom limb was because of Silas Weir Mitchell and his patients during this war. We also learn the sorry figures: there were 60 000 amputations and 600 000 deaths in the civil war. More people died of disease than on the battlefield—the last being true for all wars until the 20th century. The civil war ultimately also resulted in the formation of the Army Medical Museum (later called the Armed Forces Institute of Pathology, a world renowned institute), as well as the National Library of Medicine at Bethesda.

Fads and frauds in the history of healing are discussed in considerable detail—indeed, far too much, in my opinion.

Almost 30 pages, or one chapter, of the total of 14 chapters, is on this and covers alternative medicine, diet and its vagaries (Sylvester Graham and his Graham crackers, the brothers Kellogg and the eponymous cornflakes, for instance), hydrotherapy, generous interpretations of the Bible and the Church, sexual temperance, etc. References to these bizarre ‘medicines’ and their equally maverick medicine men are peppered throughout the book, as are comments disparaging medical practice of the times.

Despite this plan to only discuss broad ideas in the history of medicine, the authors manage to slip in numerous bits—punches would be a better word—as they inform us that Leonardo da Vinci was not enamoured by the physicians of his day and called them ‘destroyers of life’. Rabelais, the physician and satirist, while referring to possible misprints in medical textbooks stated ‘One wrong word may now kill hundreds of people’. There are other examples of droll humour such as when they write about the ancient Chinese functional concept (but not anatomical concept, however) of the liver as ‘Liver does not mean the material substance used to create pate’ or refer to ‘clumsy peat-gatherers’ who created ‘a chance to sacrifice themselves for the further enlightenment of paleopathologists’.

Inevitably, surgery merits a separate chapter, and is clubbed with the related fields of anaesthesia, asepsis and obstetrics–gynaecology. The story of anaesthesia and the disappointments and tragedies of all concerned in its discovery is elaborated. Emphasis is laid on Oliver Wendell Holmes, the physician with a literary bent of mind, for his contributions to the popularization and acceptance of anaesthesia. Semmelweis’s seminal discoveries regarding purperal fever and Lister’s magnificent advances are elaborated on; Halsted’s contributions to surgery—the disfiguring and debilitating radical Halsted mastectomy for breast cancer, the development of surgical gloves among them—are explained, as also his addictions to cocaine and later, to morphine. Progress in gynaecological surgery by James Marion Sims, the founder of American gynaecology is also discussed. Future editions of this book are likely to contain references to the current thinking that much of Sims’s surgeries would today be considered unethical and hence, there is currently a move in the USA to rename Sims speculum, and operations to a neutral name.

Advances in microbiology in the late 19th century were key to our understanding of disease and the quest for cure. Louis Pasteur and Robert Koch’s contributions, and the obvious events in this sequence—the discovery of salvarsan, prontosil, penicillin and related ideas form an entire chapter. Cancer chemotherapy, however, is not discussed.

Ayurveda as well as Chinese medicine are offered a separate chapter and one does get the impression the authors were sympathetic to both these lines of medical thought. We learn about the Chinese emperor Shen Nung, who must have been the earliest example of that glorious group of researchers—self-experimenters—as he personally investigated 1000 herbs to evaluate which were therapeutic and which were toxic—and ‘died after an unsuccessful experiment’! The emperor was one of many self-experimenters, it appears. Self-experimentation in medicine has a long history; while, the authors do not have a specific section devoted to it, there are many examples scattered

in the book. In passing, we learn that Joseph Priestley was also a self-experimenter. As was Sigmund Freud, who used cocaine to fight his depression, while the Scottish surgeon John Browne bled himself and applied leeches to his neck and ears in order to cure his sore throat. Robert Koch injected himself with tuberculin while Daniel Carrión died of Oroya fever because he inoculated himself with *Verruga peruana*. Elsewhere, we are told that polio virus vaccine pioneers, Hilary Koprowski and Herald Cox, were self-experimenters, while Jonas Salk gave it to his own children. Finally, Max von Pettenkofer swallowed a broth of cholera germs to prove his theory that the germs were harmless. He was fortunate to survive despite a wrong theory.

Public health and industrial medicine figures in an entire chapter and we learn, to our astonishment, that the USA has the highest maternal mortality rate of a developed nation and that their maternal mortality rate has actually shown an increase this century. But the depressing data is not surprising because 25%–30% of women in the USA do not receive antenatal care! I was unaware of the dismal Comstock Act, which discriminated against women and that applied for much of the first half of the 20th century in the USA. Such attitudes resulted in the trail blazing industrial and occupational medicine researcher Alice Hamilton—the first female professor at Harvard never being allowed to enter the Harvard Faculty Club—and finally retired as Emeritus assistant professor (rather than as full professor)! The Bhopal gas tragedy and a reference to a 2016 research project in India wherein women were able to insert and remove intrauterine contraceptive devices (IUCDs) without medical assistance. Environmental pollution, including arsenic and lead pollution are discussed in some detail. Chernobyl and Fukushima, or for that matter, Hiroshima and Nagasaki, or the Minimata tragedy do not feature in this book.

The index is woefully inadequate. The word ‘Otzi’, whose body was discovered in 1991, appears only once (but is discussed in two separate chapters in the book); ‘Organ transplantation’ is not present, nor is ‘Virchow’. But then, Rudolph Virchow, the founder of modern pathology, does not even make an appearance in the book! John Hunter, of course, is seen in the book, but not in the index. In fact, organ transplant itself is mentioned only in passing, in the section on blood transfusion. Kidney

transplantation and its pioneers do not earn a mention, though Christian Barnard and the first heart transplant are briefly mentioned.

Minor errors also exist. While very few books escape unscathed, I would have expected that by the third edition, someone would have pointed out to the authors that the diagnostic cell of Hodgkin lymphoma is the Reed–Sternberg cell, and not the Reed cell, as it is termed in this book. (While on the subject, the index states that ‘Reed’ appears on p. 399, whereas, it is on p. 321.) The authors refer to the advice that John Hunter gave Edward Jenner, to follow-up on his hypothesis on cowpox/small pox and the vaccine: don’t speculate, do the experiment. The exact statement was ‘I think your solution is just, but why think—why not try the experiment?’—and it was a reference to Jenner’s research in the natural sciences.

The book makes many references to recent events; that is its greatest strength. For instance, the medical history of the Iceman Otzi, whose mummy was discovered in the Alps in 1991, is discussed and it is fascinating to know that the genome of *Helicobacter pylori* has been detected in his stomach, it, making it the oldest known case of *H. pylori* gastritis! Kennewick man, the name given to a 9000-year-old skeleton discovered in the USA (in 1996) and the brouhaha that took place regarding respect and rights of native American ancestors is fascinating, to say the least. Biological warfare, Zika virus and other 21st century discoveries are among other recent aspects. Yet, the chapter on Halsted and his addictions, would have been the place to refer to the existing opioid addiction epidemic in the USA. The Armed Forces Institute of Pathology ceased to exist in 2011, but this has not been mentioned in the text.

SANJAY A. PAI
Department of Pathology
Manipal Hospital, Yeshwanthapur
Bengaluru
Karnataka
India
sanjayapai@gmail.com

[To cite: Pai SA. A History of Medicine (Book review). *Natl Med J India* 2023;36:61–2. DOI: 10.25259/NMJI_384_23]