

teaching pharmacology and health policy to medical students and pharmacists, for law professors teaching about drug-related damage suits, for new recruits to the drug industry or regulatory agencies, and for hospital and health maintenance organization staff charged with tracking and optimizing the use of pharmaceuticals.

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Lung Sounds

Understanding Lung Sounds, by Steven Lehrer, 2nd ed, 150 pp, with illus, paper, and 1 audiocassette. \$35.95 ISBN 0-7216-4902-5, Philadelphia, Pa, WB Saunders Co. 1993.

Steven Lehrer's introduction to auscultation is a primer of pulmonary diagnosis using lung sounds as its unifying theme. Intended to educate the ear as much as the mind, his kit is a self-contained learning experience for the medical student. It may also be useful for critical care and pulmonary service nurses. The kit is an excellent learning system and is highly recommended as an introduction to the topic.

"to educate the ear as much as the mind"

The book begins with an homage by Victor McKusick to the Golden Age of auscultation, introduced by René Théophile Hyacinthe Laënnec in 1816. The sketch is too brief to elaborate on the fascinating history of auscultation, which at the time was a monumental undertaking. Laënnec codified his work in 1819 in his book *Traité de l'auscultation médiate*, an effort that exhausted him and extracted a two-year period of recovery from his career. Laënnec was a pupil of Jean Nicholas Corvisart, the leading advocate and systematizer of chest percussion. Mentor and student defined the chest examination as we know it. Lehrer continues the work, as the transmitter of a grand tradition.

The first chapter reviews the anatomy of the lung and the physiology of ventilation, omitting blood gas interpretation. Lehrer also introduces common pathological conditions, briefly exploring their auscultatory findings. The second chapter shifts attention to the other end of the stethoscope: the listener. Lehrer discusses sound characteristics, the hearing mechanism, and the stethoscope as an instrument. In the third chapter, he introduces the history and physical examination of the patient with chest

disease. Here he departs from the emphasis on auscultation to provide the student with a context for the auscultatory examination—an appreciation for the findings that are likely to accompany the abnormal sounds.

Chapter 4 discusses normal breath sounds. This is a fine outline of physical examination of the chest, worth a complete physical diagnosis teaching session with students. It also introduces a simple graphic system of notation. The interested specialist may welcome the discussion of recording systems and waveform analysis. The novice may find this tedious, but the visual display of a waveform does help to prepare one for informed listening. Chapter 5 is what most students will consider the meat of the program, an outstanding and comprehensive treatment of abnormal lung sounds that does not ignore minor phenomena such as mouth noises. Mixing clinical observation with experimental findings, Lehrer explains the origins of abnormal lung sounds and interprets them in keeping with structural and functional changes in the lung. The script to the accompanying tape, a glossary, and an index round out the book.

The script and tape provide examples of the more important normal and abnormal lung sounds, followed by a short quiz. Each lung sound is introduced, demonstrated, and explained. Lehrer has the student listen to the tape through a stethoscope to ensure realism.

For the more experienced reader, the text reminds one how unsatisfactory the usual descriptors of lung sounds have become. After Laënnec's elegant system in French, his English-speaking disciples (who are legion) seemed determined to add their own vocabulary. Both the American Thoracic Society and the American College of Chest Physicians have tried to standardize the terminology, in so doing unfortunately reducing it to an impoverished few words: rales (or crackles), wheeze, and rhonchus. Lehrer is wise to use British descriptors, which are more precise. However, there is something evocative about terms like "consonating rales," and one misses the poetry of authors like J. Milner Fothergill, who wrote in his *Chronic Bronchitis* (New York, NY: GP Putnam's Sons; 1882: pp.23-24): "Careful percussion . . . tells much about the complications of chronic bronchitis; even when it has nothing to say about the malady itself. Auscultation, however, is eloquent, even loquacious, about the disease. . . . Sometimes, especially when the patient is asleep, there may be quite a musical note. . . ."

Medical texts will never be written like that again, but Lehrer's prose is as clear and precise as Fothergill's and on

occasion even gets mildly carried away with the romance of its subject.

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Style

Scientific Style and Format: The CBE Manual for Authors, Editors, and Publishers, by the Style Manual Committee. Council of Biology Editors, 6th ed, 825 pp, \$34.95, ISBN 0-521-47154-0, New York, NY, Cambridge University Press, 1994.

The sixth edition of the Council of Biology Editors (CBE) style manual is a major departure from recent previous editions, which were largely updates of prior versions. The new edition omits material on how to write and submit papers for journal publication to make room for the coverage of "all scientific disciplines" (though largely excluding "technologic fields not closely related to experimental and observational science . . ."). The new edition covers all the physical sciences and mathematics as well as the life sciences. The social science of anthropology is found in a chapter entitled "Human History and Society."

In fact, the most interesting aspect of this new edition is the grouping of sciences by their subjects rather than by the traditional boundaries of specific disciplines. The committee justifies such an approach by pointing out that the older boundaries are breaking down, citing genetics and biochemistry (molecular biology) as examples. Part 3, "Special Scientific Conventions," with 14 separate chapters, occupies about 40% of the book's content, in contrast to less than a third in earlier editions. It begins with the electromagnetic spectrum, subatomic particles, and chemical elements, proceeds through drugs, cells, and bacteria to human and animal life, and ends with the earth and the universe. Each chapter describes the basic building blocks of its subject: taxonomy, nomenclature, and symbols.

Convergence of the sciences led the committee to seek to reduce differences by recommending as nearly a uniform style as possible for all sciences in the more traditional parts of the manual. These recommendations appear in part 2, "General Style Conventions" (spelling, prose style, numbers), part 4, "Journals and Books," and part 5, "The Publishing Process." In older editions of the manual, some of these elements appeared as part of the planning and writing process, others as specific sections such as "Abbreviations and Symbols" and "Word Usage." The chapter "Prose Style and Word Choice" in part 2 contains a new section, "Difficulties for Au-