

PHYSICAL
DIAGNOSIS

—
MAJOR

THIRD
EDITION

SAUNDERS

PHYSICAL DIAGNOSIS

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THIRD EDITION, REVISED
WITH 458 ILLUSTRATIONS

PHILADELPHIA AND LONDON
W. B. SAUNDERS COMPANY
1946

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Reprinted January, 1946

MADE IN U. S. A.

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W. B. SAUNDERS COMPANY
PHILADELPHIA

TO
FRIEDRICH V. MÜLLER

“Learn to see, learn to hear, learn to feel, learn to smell, and know that by practice alone can you become expert. Medicine is learned by the bedside and not in the classroom. Let not your conceptions of the manifestations of disease come from words heard in the lecture room or read from the book. See, and then reason and compare and control. But see first.”

“Do not waste the hours of daylight in listening to that which you may read by night. But when you have seen, read. And when you can, read the original descriptions of the masters who, with crude methods of study, saw so clearly.”

“To study medicine without books is to sail an uncharted sea, while to study medicine only from books is not to go to sea at all.”

SIR WILLIAM OSLER

PREFACE TO THE THIRD EDITION

PHYSICAL diagnosis is not static but advances with each important discovery of medicine. Progress in medical knowledge necessitates constant additions as well as alterations in the text of books pertaining to medicine. This calls for new editions, in which newer advances are recorded as well as certain changes in previous points of view.

In the revision of this book for its third edition, I am again under deep obligations to many colleagues and particularly to medical students, both in our own university and in other medical schools, who have drawn attention to certain oversights and inaccuracies in previous editions. I am particularly indebted to Dr. N. C. Wright of Lidcombe, N.S.W., Australia, who has suggested additions and improvements too numerous to mention; his interest and kindness is greatly appreciated.

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PREFACE TO THE FIRST EDITION

THIS book is a summary of some of the things I have learned in fifteen years' experience in teaching physical diagnosis to medical students. In it I have tried to emphasize, as Skoda did a century ago, that physical signs are produced by physical causes, and that these underlying physical causes must be understood before the physical signs can be properly appreciated.

I have deliberately avoided any chapters on roentgenology, electrocardiography, urine, feces, etc., for two reasons. First, this is a textbook of physical diagnosis, and second, these other subjects are far better presented in books written by experts in these fields. Where roentgenograms, electrocardiograms or pulse tracings are employed they are used only to make certain explanations clearer.

I have made free use of quotations, partly because of an interest in classic descriptions, and partly because of the excellence of many of these early accounts. I have also, in many instances, employed the illustrations used by the pioneers in certain fields of investigation, thinking for instance that Traube's original curve of *pulsus alternans* is of more interest than any one of the thousands of curves of this condition which have been made since.

If in this twentieth century I have seemed to hark back too much to the descriptions of the older masters, it is because I have been impressed with the remark of Osler, "And when you can, read the original descriptions of the masters who, with crude methods of study, saw so clearly." Also, since the descriptions of Biot's breathing, of Traube's semilunar space, of Skoda's resonance, and of other physical findings vary in different books, it is of interest to see what these men themselves wrote on these subjects.

I have drawn freely both in subject material and in illustrations from many sources for which I wish to express my indebtedness. The excellent texts of many writers have been drawn upon extensively, particularly those of Cabot, Rose and Elmer, Emerson, Norris and Landis, Pratt and Bushnell, Seifert and Müller, Edens and Letulle. In the sections on the heart I have been greatly aided by Hirschfelder's "Diseases of the Heart and Aorta," a book which in my judgment is one of the most clearly written and most interestingly presented treatises on cardiac diseases. The influence of Friedrich v. Müller on this book is clearly seen in its pages and the author considers himself unusually fortunate to have been a worker in his clinic in 1913, and again in 1933, twenty years later, to have followed the last course the master gave on physical diagnosis.

The illustrations have been taken from various sources but the majority are from patients seen in the University of Kansas School of

Medicine. My colleagues, Dr. Edward H. Hashinger, Dr. Frank C. Neff, Dr. T. G. Orr, Dr. Arthur E. Hertzler, Dr. C. B. Francisco, and Dr. Nelse F. Ockerblad, have supplied me with many photographs for which it is a pleasure to express my appreciation. The photographs are in themselves a testimonial of my indebtedness to our photographer, Mr. D. M. Sams. The drawings are mainly the work of Miss Kay Bell, to whom my obligations are also obvious. I am under great obligation to Dr. George Walker for assistance in the preparation of phonograms and of the sound tracings which were made with a cathode-ray apparatus of his design and construction. Miss Opal Woodruff, librarian of the University of Kansas School of Medicine, has been of the greatest assistance in the location of certain references in the literature.

I am very grateful to my colleagues, Dr. Peter T. Bohan, Dr. Graham Asher and Dr. Galen Tice, who have been kind enough to look over sections of the manuscript and have aided me with many helpful suggestions. To Dr. Edward H. Hashinger, who has had the kindness and patience to review the entire manuscript, it is difficult to express adequate thanks. I have drawn very freely on "The Laboratory Notebook Method in Teaching Physical Diagnosis and Clinical History Recording" of Dr. Logan Clendening and have obtained even more assistance from him in the course of our conversations and discussions on the subject of physical diagnosis. If, after this enumeration of the aid I have received from so many sources, this treatise fails to prove a satisfactory outline of physical diagnosis, the fault is obviously mine.

In conclusion, this book is intended as a textbook of physical diagnosis, not as a yearbook or as an exhaustive encyclopedia. It attempts rather to indicate the paths of exploration a student should follow, and possibly suggests some byways that he may explore as the interest of the moment indicates.

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CHAPTER I

INTRODUCTION

THE methods of physical diagnosis are four in number: inspection, palpation, percussion and auscultation. Logically, the examination of the patient should proceed in this order. First, look at the patient—inspection; then touch him—palpation; then tap him—percussion; and lastly, listen to him—auscultation. Look, touch, percuss, listen—if one always follows this order many errors will be avoided.

History.—The importance of a rigid routine in examining patients cannot be overemphasized. Most errors in physical diagnosis are not the result of ignorance, but of haste and carelessness. Thoroughness in examination produces more correct diagnoses than sudden flashes of brilliancy. One should follow into the minutest detail every slight variation from the normal just as a detective follows every clue in unraveling a mystery. In many respects the methods of the physician are those of the detective, one seeking to explain a disease, the other a crime. Conan Doyle, the physician-author, was inspired to create the master-detective, Sherlock Holmes, by one of his teachers, Dr. Joseph Bell, whose uncanny powers of observation made an indelible impression upon the mind of the young medical student. The extent to which keenness of observation may be developed is illustrated by an anecdote told of Jean Nicholas Corvisart, who played an important and honorable rôle in the history of physical diagnosis. One day while examining a portrait, Corvisart remarked: "If the painter has been accurate, the original of this picture died of heart disease." An investigation proved Corvisart's diagnosis to be correct. Voltaire's story "Zadig," which every medical student should read, gives another and older story of how acuteness of observation can be developed.

The power of observation is developed by practice, by systematically following a routine which, with repeated use, becomes second nature. The physician should look long before he palpates, palpate long before he percusses, and percuss long before he listens. Frequently a student proceeds to place his stethoscope on the patient's chest as soon as the patient has undressed without having percussed or even inspected him. In many respects a regulation forbidding a student to own a stethoscope until he has studied physical diagnosis for six months would be a very wise measure.

Inspection, which is the first step in the examination of a patient, is also the oldest method. Just when it was first employed we do not know, but probably at the time when the Neanderthal, or some other primitive man, emerged from the stage where instinct was succeeded by reason and other mental processes. The most primitive man probably looked at his fellow in much the same way that we do today.

Sometime back in these hazy historical epochs the discovery of inspection was made.

Leaving behind us these very remote periods and coming down to the earliest times which have left a written record, we find the physician employing inspection in the examination of his patients. The Papyrus Ebers, one of the most venerable medical treatises in the world, compiled about 1500 B. C. describes a great variety of disease conditions including enlargement of the lymph glands, skin eruptions, pterygium of the eye, and warts on the vulva, showing that the ancient Egyptian physician had trained his powers of observation and constantly employed inspection in the diagnosis of disease. Hippocrates was a great master of inspection and saw so much with his eyes that when we read twenty-four hundred years later his description of certain diseases we can almost make an instantaneous diagnosis. "It has often been remarked that his clinical pictures of phthisis, puerperal septicemia, epilepsy, epidemic parotitis and some other diseases might, with a few changes and additions, take their place in any modern text-book." (Garrison.)

There are isolated references to the employment of percussion and auscultation in ancient times. Hippocrates employed auscultation to a limited extent. He was familiar with the pleural friction rub which he described as "squeaking like leather"; in edema of the lungs he noted that if one presses his ear against the chest and listens "it boils inside like vinegar"; and he also described the well-known succussion splash since known as "Hippocratic succussion." Aretaeus the Cappadocian, in the second century of the Christian era, observed that in tympanites "if you tap with your hand the abdomen sounds." Johannes Platearius of Salerno in the twelfth century noted that, in ascites, the abdomen on percussion gave the tone of a half-filled leathern bottle while tympanites produced the tone of a drum. William Harvey, the discoverer of the circulation of the blood, observed that when the blood was moved from the veins to the arteries "a pulse is made which may be heard in the chest." These observations, however, remained isolated, unknown to and unappreciated by the medical profession.

For more than twenty-two hundred years, from the time of Hippocrates, nearly five hundred years before Christ, until the work of Auenbrugger in the latter part of the eighteenth century, the physician had at his disposal only inspection and palpation in the examination of patients. He made mistakes, but he must have made correct diagnoses too; otherwise, he could not have maintained his position as a leader of the society in which he found himself or upheld his reputation as a learned man. He looked at his patient's tongue, he noted whether he had fever, he felt and counted his pulse, but he knew little of the condition of his heart and lungs until the nineteenth century dawned, and percussion and auscultation were discovered.

Leopold Auenbrugger, the discoverer of percussion, was the son of an

innkeeper in southern Austria. As a young lad, he assisted his father in his duties, one of which was to keep the guests' glasses well filled with wine. He learned from his father that he could tell when a cask of wine was filled, half-filled, or empty, by thumping on its end. This simple expedient gave him the germ of the idea which later led to his great discovery.

Leopold's father was ambitious for his son, gave him a good education, and later sent him to Vienna to study medicine. He was an industrious student, a young man of charm, good sense, and genial disposition. After graduation he rapidly achieved success in his profession and when twenty-nine years of age was appointed physician to the Spanish Military Hospital, the largest and finest hospital in Vienna. Ten years later, in

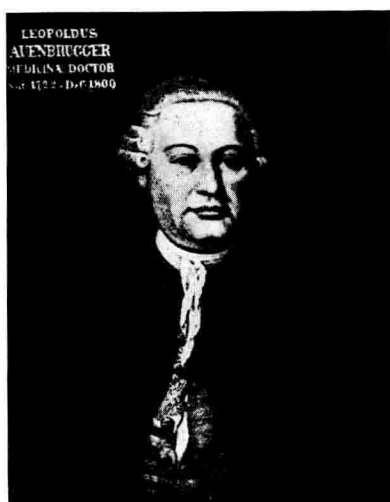


Fig. 1.—Leopold Auenbrugger.

1761, he published in Latin his "Inventum Novum," in which the new art of percussion was described.

Auenbrugger states in his preface that "in making public my discoveries, I have been actuated neither by an itch for writing nor a fondness for speculation, but by a desire of submitting to my brethren the fruits of seven years' observation and reflection."

For forty-seven years Auenbrugger's little book of 95 pages remained unnoticed. In 1808 Corvisart, the physician of Napoleon, translated it into French, only one year before Auenbrugger's death. Corvisart could easily have revamped the book and published it as his own, since Auenbrugger had been so utterly neglected and forgotten. But with a fine sense of honor and integrity, he called attention to Auenbrugger's neglected treatise and wrote in his preface "It is he and the beautiful invention which of right belongs to him that I wish to recall to life."

Corvisart was destined to play another important rôle in the development of physical diagnosis. As one of the foremost teachers of medicine in Paris, he attracted many medical students, one of whom was René Théophile Hyacinthe Laënnec. Corvisart recognized the industry, accuracy and brilliance of the young Laënnec. He constantly encouraged him in his studies and taught him the value of percussion. The young student in turn was stimulated by the brilliancy of his master's intellect and was deeply impressed and influenced by his high sense of integrity.

Laënnec followed the usual course of the medical student of his day and, after living through many lean years, at last achieved a reputation as a careful, sane physician and slowly acquired a practice. One day



Fig. 2.—Laënnec examining a patient at the Necker Hospital.

while on his way to see a patient his attention was attracted by some small children who were playing on a long beam of wood in the court of the Louvre. One child was softly scratching the end of the beam with a pin while the others with their ears at the other end were listening with delight to the sounds.

Laënnec was thinking of his difficulties in examining a patient, a young woman who was suffering from heart disease. She was quite obese and neither palpation nor percussion had aided him in his diagnosis. The sight of the children playing with the beam gave him an inspiration. Hurrying to the home of the patient, he asked for a sheet of paper, rolled it up tightly into a cylinder, applied one end to the chest and the other