Differential Diagnosis of Internal Diseases

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CLINICAL ANALYSIS AND SYNTHESIS OF SYMPTOMS AND SIGNS ON PATHOPHYSIOLOGIC BASIS

THIRD REVISED AND ENLARGED EDITION

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Preface to the Third Edition

During the last few decades the *science of medicine* has advanced so rapidly that increasing specialization, both in medical research and medical practice, has become a necessity. Investigators in basic sciences specialize even in a narrow field of biochemistry, physics, genetics or molecular biology, and as *De Witt Stetten* expressed it, they rarely if ever organize in their experiments; rather, they disintegrate or disorganize what was in nature highly integrated and organized. In medical practice the advantage of specialization need no comment. Internists have learned to solicit with increasing frequency the cooperation of skillful, imaginative and bold surgeons. Multipersonal teams of specialized internists, surgeons, radiologists and laboratory technicians are trained for the benefit of formerly hopeless patients. The progress of specialists in preventive medicine and rehabilitation accounts for the greater longevity of our population. As a collective we are definitely better off with "modern medicine," practiced by a group of specialists.

Yet what about the vast majority of individuals who used to ask for help from their family physician, the general practitioner or the old-fashioned specialist of internal medicine, and now, inadvertently, get caught in the modern laboratory machine of what is known as routine "work-up" of a patient? Usually they come out unharmed, except for loss of time and money, and sometimes even with a more scientifically proven diagnosis and treatment than they had been used to receive before. This, however, is not necessarily so. A host of dangers, pitfalls and complications may result from the use of acceptable diagnostic and therapeutic procedures in modern medical practice. An excellent book by *David M. Spain* on "The Complications of Modern Medical Practice: A Treatise on Iatrogenic Diseases" appeared in 1963 (GRUNE & STRATTON, New York and London), and now even a postgraduate, three-day course covers exclusively the same subject. "Iatrogenesis has become a new dimension in the causation of human disease" (*Spain*).

And what about the many persons who suffer and look for help from the internist although their complaints are of mental and emotional origin, whether they have an organic disease at all or an asymptomatic organic defect? Do those 30 to 50 per cent of our patients profit from the fabulous advances of scientific medicine? Can and should they be referred to a psychiatrist or to a "specialist" in psychosomatic medicine? I don't believe they should. All good medicine is psychosomatic and should be practiced by every physician. Its prerequisite, however, is the *art of medicine* besides its science.

This *art* comprises the psychological approach of, and discussion with, the patient, tact, compassion, empathy and the ability of impressing and gaining suggestive influence upon him. It has not kept pace with the pride of practicing modern scientific medicine. The practice of medicine has shifted from the bedside and consultation room to the laboratory. This trend is regretted by an increasing number of older experienced authorities of the medical profession who stress the necessity of inculcating in the present and future generation of students and physicians the *philosophy of medicine*, its general biological, psychological, social and moral principles and laws; to treat, as we often hear, the "whole man" or better, the person with a disease rather than the disease of a person. *Lord Brain*, who emphasized the "need for a philosophy of medicine" (*Lancet* May 10, 1953, p. 959) and the necessity of preserving an integrative concept of medicine in spite of increasing specialization, expressed it in these words: "The specialist needs to look at the whole man from his own particular angle, while the generalist looks at all the angles from the standpoint of the whole man."

Many of the case histories in this book may serve this purpose, illustrate how to understand and decode the symbolic "organ language" of patients, and substitute for the preferable personal guidance by a good teacher—not of psychiatry but of internal medicine.

Textbooks of medicine have ceased to be written by *one* experienced all-around authority in internal medicine. One of our best textbooks, for instance, lists 172 contributing authors. Such specialization assures complete and accurate coverage of each morbid condition recognized as a disease entity today. The present textbook of "Differential Diagnosis" is organized not by diseases but by symptoms and signs that may be individually different even in the same disease and must be analyzed and understood on a pathophysiological basis within the framework of the individual personality. The necessary teaching of diagnosis by description of diseases is based on deductive thinking, that is, by conclusions from general (disease) to special (patient). It is, of course, the prerequisite of differential diagnosis. This, however, is based on inductive thinking, that is, from special to general. It is an integrative process of thinking, not fit too well to be split among several organ specialists. Therefore the 3d edition of this book was again completed by *one* author, but not without soliciting personal critique and valuable advice from friends and colleagues to whom I am grateful.

It stands to reason that the new edition—11 years since the last one—needed many alterations, additions, omissions and rewriting. The bibliography has been greatly enlarged without elimination of too many old

references. They may be useful to clinical investigators. The index also has been brought up to date and improved.

A Spanish translation of the second edition appeared in 1959.

Several new illustrations were again provided by Mr. Lloyd Matlovsky, the chief of the photographic department, and Dr. George Jacobson, chief of the radiology department of the Los Angeles County Hospital. Their help is greatly appreciated. I am grateful to Dr. George C. Griffith who was kind enough to read the chapter on "Cardiovascular Diseases." The excellent cooperation of my publisher, Dr. Henry Stratton, and his staff, especially of Mr. G. W. Helfrich, is thankfully acknowledged.

May, 1966 JULIUS BAUER, M.D.

Preface to the Second Edition

THE NECESSITY of preparing a new edition, the appearance of a Spanish translation in 1951, and the favorable reception by the many reviewers of this book are proof that it served its purpose. Training and stimulation of clinical thinking and judgment was the goal set forth in the preface to the first edition in 1950. Discrimination between clinically useful laboratory methods, as well as the distinction between technical diagnostic procedures carried out on a sick person and those designed to increase our scientific knowledge and understanding of pathologic physiology, are more important today than ever before. The aim of the practicing physician is different from that of the medical research man. The clinician must save the time and expenses of, and avoid inconveniences to, his patients. Even the smallest risk of a diagnostic procedure is unjustified unless the expected diagnostic information can be obtained in no other way. I have in mind, for instance, the indiscriminate use of angiography of the heart or brain, or aortography, of myelography, of biopsies of liver or kidneys, or the newest technical achievement, suprasternal puncture of the left atrium.

The true physician cannot dispense with some knowledge of the individual patient's soul (a term used in its broadest sense) even if he has acquired full knowledge of his body. The amazing progress of medical technology is not helpful for this purpose. Those concerned with the future of medicine and with planning medical education should keep in mind Bertrand Russell's words: "Unless men increase in wisdom as much as in knowledge, increase of knowledge will be increase of sorrow."

It is obvious that thorough revision and enlargement of the text has been necessary in order to keep it up to date. Constructive criticism of reviewers of the first edition has been greatly appreciated and reasonable suggestions for improvement have been heeded. Many previous references in the bibliography have been replaced by more recent ones. A considerably increased volume of bibliography was inevitable for the benefit of medical investigators, authors and teachers. The greatly expanded and improved subject index may be of help to the advanced student, practicing physician, internist, writer and investigator as well.

Several new illustrations have been added, chiefly roentgenograms of patients from my hospital service. For these roentgenograms I am indebted to George Jacobson, M.D., the chief of the radiology department, and to Mr. Lloyd Matlovsky, the chief of the photography department of the Los Angeles County Hospital. The invaluable cooperation of the publisher, Mr. Henry M. Stratton, and his editorial staff is greatly appreciated.

JULIUS BAUER, M.D.

Los Angeles

Preface to the First Edition

ANY RATIONAL therapy must be based upon and, therefore, be preceded by a diagnosis. In cases of emergency one may be compelled to dispense with a complete and accurate diagnosis and to content oneself with a partial and fragmentary one if therapeutic measures have to be taken urgently. A patient in acute circulatory failure, for example, requires immediate treatment which will be different if it is caused by vasomotor collapse and shock (pallor, empty neck veins) than if it results from a failing heart (engorged neck veins). Whether the acute heart failure arose from coronary occlusion, hypertensive or rheumatic heart disease may be decided after the emergency treatment. The clinical syndrome of an "acute abdomen" may necessitate surgical intervention before an accurate diagnosis is possible. A patient with massive gastrointestinal hemorrhage must be treated even without foreknowledge of its origin.

When there is no emergency—and fever or 50 per cent hemoglobin, e.g., is per se no emergency—treatment should be withheld or carried out only in such symptomatic way as not to obscure an accurate diagnosis. It is bad practice to use antibiotics indiscriminately before an attempt has been made to identify the offender, or to administer a blood transfusion before the nature of the anemia has been studied. To arrive at a correct diagnosis as accurately and completely as possible a more or less wide range of diagnostic possibilities must be taken into consideration and symptoms and signs of each must be evaluated with regard to those presented by the case in question. This *differential diagnosis* requires thoroughness in observation and examination of the patient, knowledge, experience and shrewdness. Often enough we shall be unable to carry the differential diagnosis beyond a certain limit; that is, we shall be unable to decide between two or more equally possible diagnoses. Mistakes are and always will be inevitable. They must not occur, however, by missing a disease that is curable by specific therapy.

It should be made a rule to concentrate attention first and foremost upon the possibility of ailments that require a specific or even life saving treatment, especially surgical intervention. From this viewpoint the possibility of a malignant growth, of a subphrenic or subdural abscess, of an empyema, of malaria, syphilis, subacute bacterial endocarditis, myxedema or pernicious anemia, to mention only a few, must have preference in our differential diagnostic considerations. It is of minor practical importance to confuse lymphosarcoma with Hodgkin's lymphogranuloma or multiple sclerosis with amyotrophic lateral sclerosis; it is of no practical

importance at all to investigate for the primary tumor if the diagnosis of carcinomatosis of the liver has been established. It may be disastrous, however, if syphilis of the liver is mistaken for metastatic carcinomatosis. It is inexcusable to treat rectal bleeding by injections for hemorrhoids without making sure (first by digital exploration) that a rectal cancer is not responsible.

Clinical-pathologic conferences offer excellent training in the differential diagnosis of fatal diseases with an anatomic substratum. They do not, however, teach the fine art of minute observation and thorough examination of a patient which provides the data for differential diagnostic consideration. They also fail to further knowledge of the large group of "functional," nonfatal diseases and may distract the physician from a very practical necessity: interest not only in the diagnosis of an anatomic disease but also in the personality who became victim of the disease. And this is important even for the management of a person diagnosed as fatally sick.

Examinations of my office records recently revealed that of the last 2000 patients who have consulted me 32.3 per cent had to be diagnosed as pure neurosis or psychoneurosis of one type or another. By the adjective "pure" I mean that the very common cases of somatic disease with a superimposed neurotic component were not included. No cases of peptic ulcer, hyperthyroidism or essential hypertension were among these 32.3 per cent. In the same material the frequency of essential hypertension—blood pressure over 160 systolic and 90 diastolic—was 16.5 per cent. This material is in no way selected and is representative of that commonly encountered by every internist. The figures also are in full conformity with those of other writers.[1]

These facts involve implications of great practical importance. How, where and by whom should the diagnosis of neurotic or psychoneurotic states be made and taught? Who should take care of that great number of patients and how should their treatment be instituted and taught? It stands to reason that the diagnosis must be established by the general practitioner or internist, since he and not the specialist in psychiatry is consulted by these patients. He must be the competent man to rule out diagnostic possibilities other than neurosis and to disentangle complex psychosomatic ailments as to their somatic and neurotic component. The diagnosis of neurosis or psychoneurosis must never be made only on the grounds of absence of signs of an organic disease. It is justified only if, in addition, positive findings can be discovered which either disclose a neu-

[1]Allan, F. N., and Kaufman, M.: Nervous factors in general practice. J. A. M. A. *138*: 1135, 1948.

ropathic personality with a highly irritable nervous system and/or suggest that the patient faces a conflict situation with which he cannot cope. Recognition of the maladjustment of a patient to his environment and his failure to deal successfully with a given situation is the basis of successful treatment. This "*minor psychotherapy*" consists chiefly of a sympathetic explanation of the situation to the patient. He must be made to understand the relationship between his symptoms and his emotional stress. He must learn that his symptoms are by no means imaginary, but that their cause is either imaginary (as in hypochondria) or due to subjective misinterpretation of, or faulty attitude toward, a given difficult life situation. Thus, diagnosis merges almost imperceptibly here with therapy.

Diagnosis and "minor psychotherapy" is, therefore, the job of the internist. He cannot refer from 30 to 60 per cent of his patients to the psychiatrist. To this "minor" degree he must practice his psychiatry, which means healing of the mind, himself. He must know how to do it because he will need it just as often as the knowledge of when and how to prescribe digitalis or antibiotics. As long as he is incompetent in this art or prefers instead simply to have his nurse administer vitamin or hormone shots for indefinite periods of time, he has no right to complain of the competition of chiropractors, naturopaths, Christian Scientists and adepts of other branches of cult medicine.

Who, then, should teach the art of psychodiagnosis and minor psychotherapy? How should it be taught? The fundamentals of psychobiology and psychopathology must, of course, be taught by the psychiatrist, who is, also, the only competent authority to handle the relatively small group of severe psychoneurotics who do not respond to "minor" psychotherapy. Having acquired the basic knowledge of human nature and its pathologic distortions, the student must learn the approach, differential diagnosis and treatment of neurotics by watching his teacher in internal medicine—not in didactic lectures and, for obvious reasons, usually not in the wards, but in the outpatient department. Study of characteristic case histories is an equally important method of learning the art of minor psychotherapy. This is the reason that, in this book particularly, case histories of psychosomatic diseases are used to illustrate the text.

There is another serious reason why not only the general practitioner and internist but also the surgeon and every specialist should be familiar with the physiology and pathology of the human mind. An unbelievably great number of neurotic patients owe an aggravation of their disease or even its origin to thoughtless or imprudent remarks or actions of a physician. Authoritative voices have been raised in the last few years to point out the importance of such "*iatrogenic*" ("caused by the physician")

ailments. One may well ponder Armstrong's[2] dictum: "It is better to attribute incorrectly a small percentage of organic illnesses to functional causes than to condemn a large number of healthy patients to the fear of a nonexistent disease."

Diagnostic considerations must start with the first contact with the patient. His general appearance and behavior, the way he presents his story and answers questions may be valuable guides. Keep in mind that the chief complaints of psychoneurotic origin usually are trimmed with a variety of most disparate symptoms. *History* must be taken intelligently and with an attempt at insight, not simply as a routine according to a standardized scheme. Many believe that this is the greatest art in medicine.[3] Its interpretation, at least, is. Years ago I estimated that about 55 per cent of all internal diseases can be diagnosed from aspect and history alone, an additional 20 per cent by physical examination and another 20 per cent by laboratory tests. The rest of the patients remain undiagnosed, regardless of whether they get well or die.

Diagnosis should embrace more than simply putting a case in one or more of the pigeonholes constructed by medical science; that is, the labelling of a patient with one or more of the numerous terms of disease which may change as time passes, and which often do not cover the problem presented by an individual patient. The term "diagnosis," literally translated from the Greek, means thorough understanding; in medicine it is the thorough understanding of the patient's disturbance, both anatomically and physiologically, somatic and psychic.

The *laboratory* should be used intelligently, not indiscriminately. Thoughtless accumulation of tests which cannot be expected to contribute to the diagnosis must be condemned. Time, inconvenience, expenses, even possible danger to the patient and last, but not least, the reliability of laboratory procedures must be taken into consideration. I have seen gastroscopy done on a patient with clinically and roentgenologically typical duodenal ulcer, peritoneoscopy performed on a patient whose abdomen was distended by, and full of, palpable cancer metastases, a glucose tolerance test carried out on patients with proved diabetes. These are, of course, preposterous outgrowths of mechanized medicine. I hope the words of an enthusiastic roentgenologist, ". . . percussion and auscultation become the tools of another age" (Radiol. *50:* 44, 1948), will not be taken too seriously. There is no infallible method of examination and testing in medicine, including biopsy.

[2]Armstrong, T. G.: The use of reassurance. Lancet *2:* 480, 1946.
[3]Platt, R.: Two essays on the practice of medicine. Lancet *2:* 305, 1947.

Those mechanically minded physicians of the younger generation who lay greater stress on figures concerning the biochemical constituents of blood and excretions of a patient than on his history, physical findings and personality should not fail to familiarize themselves with the survey carried out by the Medical Society of the State of Pennsylvania as to the accuracy of some of the more common chemical measurements made in hospital laboratories throughout the State. "The accuracy of the measurements is below any reasonable standard," was the conclusion of the investigators.[4] My unforgettable teacher, F. Widal, defined medicine: "Toutes les sciences au service de l'homme" (All the sciences at the service of man). And he used them to full extent in his laboratory of the Hôpital Cochin in Paris. But he forsaw that the day will come when tempted by the apparent exactness of biological tests man may forget his true destination and for the subtle art of the clinician substitute blind accumulation of tests of scientific appearance, the sum of which often may contribute only confusion and error.[5]

It might be well to mention a few points concerning the general arrangement of this book in anticipation of possible criticism.

1. Schematic tables of differential diagnosis which apparently are much favored in such textbooks as this have been almost completely omitted. This has been done deliberately. They encourage memorizing and discourage thinking, besides being necessarily incomplete and frequently misleading. The good physician is not one who memorized nineteen diseases of which a particular symptom or sign might be a manifestation, but rather one who is familiar with, and tries to analyze, the pathophysiological mechanism that might account for the presenting clinical picture.

2. Overlapping is unavoidable in a textbook of differential diagnosis. It is not detrimental, in my opinion. The association of a particular symptom or sign with various combinations of others is strengthened and impressed on the reader's mind by such overlapping.

3. The selection of references does not claim to be impartial. In a book of such scope it is obvious that to avoid unwieldiness many fundamental publications can not be given the deserved credit. It was attempted, however, to quote as far as possible the most recent publications containing references of previous work done along the particular line. This also

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[4]Belk, W. P., and Sunderman, F. W.: A survey of the accuracy of chemical analyses in clinical laboratories. Am. J. Clin. Pathol. *17*: 853, 1947.

[5]De Gennes, L.: Chairé de pathologie et thérapeutique générales. Presse Méd. March 27, 213, 1948.

should be of help to a research worker in his special field. It is quite natural, too, that more consideration was given to the work carried out by my former co-workers and myself than to some other equally or more pertinent and important one.

4. It is fully realized that some views expressed in this book do not conform to current and generally accepted concepts. It remains to be seen whether or not they will be common knowledge in the future. Progress, however, cannot be expected if new ideas are banned and rejected without due consideration of all pros and cons. Since this book attempts to train and stimulate clinical thinking and judgment rather than to compile only known facts it is in keeping with this goal not to overlook concepts that cannot be fully proved at the present time but offer the most satisfactory explanation of known facts. Who considers medicine to be only applied exact science may deserve the title of "doctor," which means an erudite man; he will never be a good physician if he does not understand the art of medicine also.

Parts of chapters 14 (Infectious Disease) and 16 (Electrocardiogram) were written by my son, Franz K. Bauer, M.D., Instructor in Medicine at the College of Medical Evangelists and Junior Attending Physician, Los Angeles County Hospital.

I am indebted to Drs. Ray A. Carter, Walter L. Stilson and particularly Denis C. Adler for the roentgenological illustrations, to Drs. Walter S. Graf and Harold J. Hoxie as well as to my Viennese collaborators Drs. Max Schur and Alfred Vogl (New York) for valuable advice and suggestions. The clerical work of my indefatigable secretary Mrs. Leonore Abelmann is deeply appreciated. Last but not least I am grateful for the cooperation of my publisher, Mr. Henry M. Stratton, and his efficient staff.

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Contents

PART ONE. LEADING SYMPTOMS

1. Headache

HEADACHE as chief complaint of a patient is a frequent occurrence in everyday practice. The first concern is the duration of the headache, whether or not it is localized at a particular part of the head, and which other symptoms or relevant facts from the life history of the patient may be detected.

Acute Headache

An *acute headache* which is the result of any local inflammatory processes, such as abscesses of the scalp, periostitis or osteomyelitis of the skull, will easily be recognized by proper examination. The same holds true for acute headache caused by acute purulent paranasal sinusitis during the course of an upper respiratory infection or for the headache indicating a cerebral complication of a suppurative otitis (sinus thrombosis, brain abscess). The history of adequate trauma explains the headache following skull fracture, hemorrhage from the medial meningeal artery, or concussion of the brain. Acute headache caused by sunstroke occurs after long exposure to intense sunshine and may be associated with dizziness, nausea and vomiting. Spinal puncture or spinal anesthesia may occasionally result in severe headache with or without signs of meningeal irritation (stiffness of the neck, Kernig's sign). If puncture is done for the diagnosis of lues, it will likely be negative if such a "meningism" has occurred. Diminished intracranial pressure by prolonged failing secretion of the choroid plexus to reestablish normal pressure has been claimed as a pathogenetic factor of headache.[2] Other diagnostic procedures such as myelography with radiopaque dye or air insufflation in the ventricular system can cause considerable headache.

Acute headache is a frequent precursor and chief symptom of various acute infectious diseases. The febrile state and the accompanying symptoms and signs will clarify the situation. An important variety of acute headache is the one occurring in secondary syphilis. The following case history illustrates the importance of examining a patient not only stripped but also in bright daylight, even if acute headache is the only complaint.