



(Second Edition)

# The HEAD and NECK in ROENTGEN DIAGNOSIS

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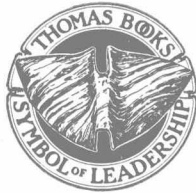
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VOLUME I



CHARLES C THOMAS • PUBLISHER  
*Springfield • Illinois • U.S.A.*

CHARLES C THOMAS • PUBLISHER  
BANNERSTONE HOUSE  
301-327 East Lawrence Avenue, Springfield, Illinois, U.S.A.

*Published simultaneously in the British Commonwealth of Nations by*  
BLACKWELL SCIENTIFIC PUBLICATIONS, LTD., OXFORD, ENGLAND

*Published simultaneously in Canada by*  
THE RYERSON PRESS, TORONTO

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*Copyright 1940 and 1956, by CHARLES C THOMAS • PUBLISHER*

*First Edition, First Printing, June 1940*  
*First Edition, Second Printing, August 1942*  
*Second Edition, First Printing, October 1956*

*Library of Congress Catalog Card Number 56:6400*

*Printed in the United States of America*

THE HEAD AND NECK  
IN  
ROENTGEN DIAGNOSIS

TO THE MEMORY OF PROFESSOR HENRY KHUNRATH PANCOAST  
A SCHOLARLY SCIENTIST AND AN INSPIRING TEACHER  
THE SECOND EDITION OF  
THE HEAD AND NECK IN ROENTGEN DIAGNOSIS  
IS AFFECTIONATELY DEDICATED

## Preface to the Second Edition

THE GENEROUS reception and wide use of the several printings of the first edition of *The Head and Neck in Roentgen Diagnosis* and the knowledge that great advances have been made in medical roentgenology during the past decade would appear to justify a second edition of the text. As is true for other branches of study and application listed in the medical curriculum, the over-all field of radiology has not remained static; new techniques, new descriptions, and new interpretations have come into being. As a result of these changes and advances, the subject matter of this second edition of *The Head and Neck in Roentgen Diagnosis* appears in revised form; in part rewritten and rearranged, at places greatly extended, and new sections added. New illustrations have been introduced and some of the illustrations have been replaced. Better and greater correlation and integration of the varied subject matter has been the constant aim of the present authors.

The second edition appears in two volumes and in a changed format. In order to help the reader in locating more readily subject matter, pertinent running heads have been added on all right-hand pages. A complete index of subject matter is printed in each of the two volumes; cross indexing is featured, as is the indexing of pertinent illustrations. The pages of the text are numbered in order from the first page of the first volume to the last page of the second volume.

The reader is referred to The Preface of the First Edition, herein repeated, and to the Introduction of the Second Edition for a consideration of basic concepts and principles, as reflected in the printed pages of the text throughout.

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## Preface to the First Edition

IN ORDER that maximal results in medical and surgical diagnosis by means of the roentgen rays may be obtained, the basic and technical aspects of radiology must be correlated and integrated intimately with apposite facts in developmental and adult morphology, physiology, pathology, and observations in clinical medicine and surgery and the special branches.

To this end the present volume has been prepared, the thought being that the modern radiologist has a wider and deeper interest than solely making and reading roentgenograms. Although the reasons for the inclusion of much of the subject matter are obvious and immediately apparent, the selection of a list of human affections and conditions and fundamental matter for consideration has not always been as simple as would appear. In order to hold the text to a single volume, descriptions and discussions, in many instances, had to be curtailed; in others, omitted altogether. In the choice of material there may be some errors in judgment. It is, however, hoped that the several chapters are fairly representative and, at least, moderately comprehensive.

In the selection of subject matter for a book such as this, it would, of course, be too much to expect to have unanimity of opinion. Some, probably, would select matter not included and others would exclude certain presentations and discussions here given. In attempting an integration of basic matter with the more purely roentgenological phases, an effort has been made, for the most part, to include only relevant facts and descriptions. The task has not always been easy. Although believing that an utterly nihilistic point of view with reference to the underlying and cognate subjects would be bad and lead to a chaotic condition in medical radiology, it is recognized that many details in the pertinent basic sciences, although important elsewhere, do not especially concern the radiologist. Unless deemed essential, detailed considerations of descriptive and physiologic anatomy have been generally omitted. In some instances, discussions are more extended for the sake of completeness and clarity.

The authors are not unmindful of the help derived from the recorded observations of others, both in the specific field of radiology and the important cognate sciences. Due credit has been given throughout the text wherever reference is made to prior work. Especially helpful has been the personal interest manifested by a large number of radiologists. A number of illustrations have been taken directly or modified from other books and

for his hearty and generous cooperation and valued counsel in the publication of this volume.

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## Introduction

IN COMMON with the dual function of other specialists in the field of medicine, the roentgenologist has primarily a twofold duty: First, to advance the science of the particular subject itself, through original work and research and the application of established roentgen procedures in practical medicine; and, second, to cooperate with or work through the heads of the various departments of the medical college and hospital, the clinical and preclinical staffs, and the physicians and surgeons engaged in the general practical field, in the interpretation of physical signs and symptoms and normal and abnormal conditions and conformations. On the one hand, the roentgenologist, thus, becomes an independent observer and specialist, and, on the other hand, an important co-worker and consultant in the analysis and integration of various isolated observations and facts in matters of diagnosis and treatment.

Although radiology has made great strides in the furtherance of modern medicine and has taken a definite and conspicuous place among methods of diagnosis and treatment, the true place of the roentgen procedure in the practice of medicine must always be recognized by the specialist in the field and by those who would seek its aid.

At the outset, the roentgenologist and others may feel assured that no other single method now available is so accurate and dependable as is the roentgen method and procedure, when properly and carefully carried out, in the diagnosis of so large a group of conditions and disorders that befall the human body. This fundamentally important fact, alone, greatly increases the responsibilities of the roentgenologist and makes it clear that only after an adequate training and experience in theoretical roentgen problems and in practical medical radiology can the chief or supervising duties in this special field be honestly assumed.

Full cognizance must also be taken of the limitations of the roentgen technic in matters of diagnosis. There are conditions in which the roentgenogram, even in very competent hands, can accomplish little more than confirm or deny the tentative conclusions derived by other methods; no positive diagnosis being possible by means of the roentgen examination alone, but very important in complementing and checking information obtained by other methods and technics and clinical observations. Indeed, the roentgenogram may be wholly unavailable for purposes of diagnosis in some situations and conditions. Because of an understanding of the theo-

ence to the requirements in training in what may be called the science of the human body on which the various roentgen procedures must be undertaken.

In addition to a satisfactory knowledge in general and theoretic radiology, some roentgenologists will doubtless feel that they should have a fairly comprehensive knowledge of the development, anatomy and functions of the systems and organs of the body, in order that they might be more independent and act more intelligently in matters of interpretation and diagnosis. Another group of roentgenologists may be satisfied to be technicians primarily, calling on others engaged in the basic and clinical branches when interpretations out of the ordinary are required. Although the roentgenologist who is learned in the theory and application of the x-rays and has an understanding in fundamental, variational and functional anatomy, and has an interest in the domains of pathology will take cognizance of the clinical findings and consult with the basic science and clinical workers, the thought of a medical radiologist being a mere technician in the ordinary sense can scarcely be condoned as becoming the modern concept of the subject of radiology in its general and special fields of activity.

## Acknowledgments

THE AUTHORS are especially indebted to Dr. Edward Rose for his comments on pituitary physiology; to Dr. Irvin Stein for his assistance on bone physiology; to Dr. Harry P. Schenck for his suggestions on allergic manifestations in the nose and paranasal sinuses; to Drs. C. R. Perryman and John W. Hope for their assistance in the preparation of certain parts of the manuscript; to Dr. Rosalind Thorner for reading and correcting the manuscript; to Dr. Temple S. Fay for helpful suggestions on injuries of the upper cervical region; and to Drs. Roy R. Greening, Roderick L. Tondreau, Richard H. Chamberlain, John F. Weigen, John F. Gibbons, Richard V. Wilson, A. Edward O'Hara, John M. Dennis, Jack Edeiken, Robert P. Boudreau, Norman J. Winston, Adele Kynette, William J. Tuddenham, Marlyn W. Miller, Henry P. Pendergrass, Theodore A. Tristan, J. Olin Perritt and to many former Fellows in Radiology, for valued help in collecting data and preparing certain aspects of the original copy. We are also appreciative of the untiring interest and care manifested by Miss Anna L. Rutledge for her editorial work on the manuscript and the many references; to Mrs. William J. H. Hough, Jr. and Mrs. Elizabeth K. Lewis for their assistance to Miss Rutledge; for the editorial assistance of Mrs. Tacy D. W. Fritz; for the secretarial assistance of Miss Myrtle Bremerman, Miss Jane Stuart, Miss Violet Rotondo, Miss Elizabeth J. Kauffman, Miss Elizabeth A. Cain and Mrs. Dorothy Breen; to Miss Dorothy W. Davis, Mrs. Gertrud C. Fielding, Mr. Ralph S. Lovelidge and Mr. James R. Bartsch for their technical assistance, and to many members of the technical staff who posed for photographic illustrations. Appreciation is also extended to Mrs. Doris A. Strohm for the care and attention in preparing many of the drawings and diagrams and doing most of the lettering on the new illustrations; to Dr. Francisco Campoy, Mrs. Gertrud C. Fielding and Dr. Jacques de Moor for certain translations. The authors are most grateful to Mr. Reuben Goldberg, photographer to the University of Pennsylvania Museum, who on all occasions was most helpful, for the excellence of the new negative prints; to Mr. Robert L. Chapman for the photographs of personnel and equipment illustrating positions for examinations; and finally, to our colleagues in other branches of medicine in the University of Pennsylvania, to our secretaries, technicians and Fellows in radiology, who, in many ways, have provided help and encouragement.

The authors wish to express deep appreciation to Mr. Charles C Thomas,

Mr. Payne Thomas, Mr. Warren H. Green and Mrs. Gladys Day for generous cooperation and valued counsel in the publication of these volumes.

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