

DISEASES OF  
THE NOSE  
AND THROAT

ST CLAIR THOMSON  
AND  
V. E. NEGUS

SIXTH EDITION

# DISEASES OF THE NOSE AND THROAT

A TEXTBOOK FOR STUDENTS AND PRACTITIONERS

BY

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## PREFACE TO THE SIXTH EDITION

EXHAUSTION of the fifth edition has necessitated either reprinting the existing book or rewriting many parts in need of revision. In view of continued progress, especially in the field of treatment, it has been decided to follow the latter course.

Although the general structure of the book is but little changed—somewhat drastic alterations having been made in the fifth edition—yet much has been rewritten and many corrections have been made.

It will be seen that on the title page of this, the sixth edition of *Diseases of the Nose and Throat*, the name and distinctions of Sir StClair Thomson still hold their place of honour. For he it was who designed and wrote the book and to him belongs the credit of its establishment in favour.

It has been observed more than once that the highest test of a master of his subject is not merely the practice of his art and the perfection of methods, but rather the ability to pass on his knowledge to those who succeed him, so that they, in their turn, may further add their quota to the store.

The work of compilation is tedious, especially the attempt to absorb and record the work of others and to present the complete whole in true perspective, but I believe that it is not beyond the powers of one man to cover the subject; and it may be that correct balance is thereby given to the various aspects of this wide field.

In the fifth edition I paid tribute to those who had given time and thought to embellish the process of revision, and here I am glad to welcome G. H. Bateman, who assisted me before, as a collaborator in this latest edition. His help has been very real, not only in reviewing the literature of recent years, but also by virtue of his keen, critical, and constructive powers, based on sound observation and wide experience. And so is continued the tradition of our parent hospital, for Geoffrey Bateman served his apprenticeship at King's as house surgeon and registrar before migrating to St. Thomas's.

I have sought expert advice on many subjects and extend my sincere thanks to those who have responded so readily to my request.

Sir Harold Gillies has reviewed the section on repair of the nose, and has provided new illustrations; Dr. Kate Maunsell has suggested alterations and additions to the chapter on allergy. Dr. J. L. Livingstone has given much help in the section devoted to tuberculosis; Dr. Anwyl Davies has similarly provided expert opinion on the chapters on syphilis, and Dr. G. B. Dowling has supplied information regarding the treatment of lupus.

Questions on anæsthesia have been answered by Dr. F. F. Cartwright and Dr. J. G. Bourne.

Useful criticism of the chapter on cancer of the larynx has been afforded by Mr. Roland Lewis.

I have rearranged and largely rewritten the section on stridor in childhood, and in this respect have derived great benefit from the help of Mr. T. G. Wilson, whose views are based on wide and detailed observation.

As in the last edition, so in this, Mr. Norman Barrett has given invaluable assistance and guidance in the chapters concerned with the trachea, the bronchi, and the œsophagus.

The formulæ at the end of the book have been checked and revised by Mr. Teesdale.

There is a minor alteration in the arrangement of plates and radiographs ; slight reduction in the number of figures has afforded extra space for the necessary expansion of the text.

Fifty figures, one coloured plate and one radiograph are new ; the majority of half-tone drawings are the work of Mr. L. Field Marchant, while eight are by Miss Hewland. My friend T. G. Wilson has kindly allowed me to reproduce a series of his coloured illustrations of the larynx in childhood.

Many references have been added, particularly those concerned with controversial subjects ; I realize that omissions have been made, and I sincerely trust that those whose opinions should have been recorded will forgive unintentional discourtesy.

In an attempt to avoid errors in the authorities quoted I have again sought the aid of Miss Jones, whose expert searching of the literature has been of great help.

To my secretary, Miss Parr, has fallen the difficult and laborious task of inserting corrections and additions.

To all those who have been so generous in giving freely of their help and guidance I offer my sincere gratitude.

V. E. NEGUS.

## FROM PREFACES TO EARLIER EDITIONS

It is no longer necessary to set out in full the prefaces written by Sir S<sup>t</sup>clair to the earlier editions, but what is still applicable is reproduced here.

### FIRST EDITION

This book is based on personal experience. In writing it I have striven to keep two things constantly in mind—one, that it should serve as a guide to senior students; and the other, that it should prove a volume of ready reference for those engaged in the exercise of their profession. The experience gained during some years in general practice has, I trust, not only saved me from taking too narrow and too mechanical a view of the diseases of the air-passages, but has also helped me to realize their increasing importance in everyday work, and enabled me to supply such information and assistance as a practitioner is likely to require.

LONDON,  
*May, 1911.*

### SECOND EDITION

"Un livre est toujours un moyen de faire un meilleur livre."  
MICHELET.

The first edition of this textbook was published more than four years ago: in the meantime rhino-laryngology has continued to make steady progress. The main design of the book has not been altered, but the work has been rigorously revised from beginning to end.

LONDON,  
*February, 1916.*

### THIRD EDITION

"In this work, when it shall be found that much is omitted, let it not be forgotten that much likewise is performed."

SAMUEL JOHNSON, LL.D., Preface to his "Dictionary of the English Language," 1755.

This book has been out of print for some time. For the delay I can only offer the same excuse as Hippocrates—Art is long and Life is short. Fortunately, although agreeing with the same authority that experience is fallacious, I am somewhat gratified to find that the foundations of the work were so well and truly laid in 1911 that there has been no need to tamper with them and the scheme of it remains the same after fifteen years.

*March, 1926.*

## FOURTH EDITION

"Were it not better far for a man in a fair room to set up one great light, than to go about with a rush light into every dark corner." BACON.

"J'ay fait ce que j'ay voulu ; tout le monde me reconnoit en mon livre, et mon livre en moi." MONTAIGNE.

This book was first published twenty-five years ago. Second and third editions, and several reprintings, have given gratifying evidence of the favour with which it has been received. The last edition appeared ten years ago. Since then the developments in laryngology have been so marked, and have entailed such immediate knowledge of progress in various directions, that I was anxious that the present edition should not fail in modernity. I have, therefore, been very fortunate in obtaining the co-operation of my friend V. E. Negus.

My own task has consisted chiefly in trying to exercise the right judgment which we all pray for in all things, no easy matter in medicine even after fifty-five years of practice, of which forty-four have been entirely devoted to laryngology. Future editions I leave to my trustworthy friend and colleague with the happy feeling of assurance that he will make them worthily representative of laryngology.

STCLAIR THOMSON.

WIMPOLE STREET, W.I.  
January, 1937.

## FIFTH EDITION

And thou in this shalt find thy monument  
When tyrants' crests and tombs of brass are spent.  
SHAKESPEARE, *Sonnet cvii.*

WHEN, in the earlier days of the war, the need for a new edition of this book arose, Sir StClair became actively interested in the revision of the work he loved so well. Although driven by the Nazi "tyrants" from the home where he had hoped for peace and leisure, yet his interest did not flag ; to the end of his days his mind was receptive of new ideas and facile in moulding them into the form most suitable for a textbook.

In the autumn of 1942 he wrote to tell me that he was making progress, but that "work here, without a study and a good library at hand is difficult. But I am anxious to get on and do my bit, before the days of Peace." And this sentiment he expressed at the age of eighty-two. He died in January, 1943.

The tyrants drove my patron from his home ; they have gone to dust, but his life's work remains.

I commend this book as a monument to its founder and sincerely hope that his spirit will still illuminate the work by which the world may recognize and remember him, even though he did not survive to celebrate its completion.

V. E. NEGUS.

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# DISEASES OF THE NOSE AND THROAT

## *PART I.—INTRODUCTORY*

### CHAPTER I

#### EMBRYOLOGY AND PHYSIOLOGY

##### I. DEVELOPMENT OF THE NOSE, PHARYNX, AND LARYNX

SOME knowledge of embryology is necessary in order to understand the congenital defects and certain pathological conditions of the air-passages. In a work like the present, however, only the merest outline is possible, and for more detailed information reference should be made to special treatises on the subject.

It will be seen by reference to Figs. 2, 3, and 4 that as a result of the formation of the head fold a depression is produced; this is the primitive mouth or stomodæum, and it lies transversely between the pericardium and the projecting forebrain. The stomodæum is separated from the foregut by the bucco-pharyngeal membrane, which disappears at the end of the third week.

**The nose.**—In early foetal life the mouth and nose constitute a single chamber, but developmental changes later separate the two, commencing at about the eighth week. At this time, as the result of outgrowth from the roof and lateral walls of this oro-nasal cavity, a partition commences to appear, eventually to form the palate. Fronto-nasal processes arise in the roof of the mouth, growing downwards and dividing into medial nasal and lateral nasal processes, separated by two depressions, the olfactory pits (Fig. 1). Each median nasal process enlarges to form two rounded swellings, the globular processes; from these are derived the premaxillæ, on which are carried the central incisor teeth.

Concurrently, maxillary processes grow inwards and forwards from the lateral wall to fuse with the lateral nasal and globular processes, forming in this way a new upper boundary for the mouth, and converting the olfactory pits into shallow olfactory fossæ. There are now primitive anterior nares, completely defined, and primitive posterior nares; the latter, potential openings above and behind the new floor, are formed by the maxillary processes and are closed by an epithelial plug, the bucco-nasal membrane. This membrane ruptures about the fifth week and the primitive posterior nares then open on the front part of the roof of the mouth. Failure to disappear produces developmental defects (p. 109).

The nasal pits increase in depth in an upward and backward direction.

The septum is brought into existence by the pushing upward of the roof of the cavities. In the sixth week the palate folds grow from the inner side of the maxillary process and fuse with one another and the lower part of the septum except in its posterior one-fourth, which remains free. Thus definite posterior nares are established and the stomodæum is converted into an upper nasal and lower buccal part. By the third month a cartilaginous nasal capsule develops, parts of which become ossified at a later date; the centres of development of the nasal septum originate in the presphenoid and grow forward in two halves, which occasionally fail to unite.

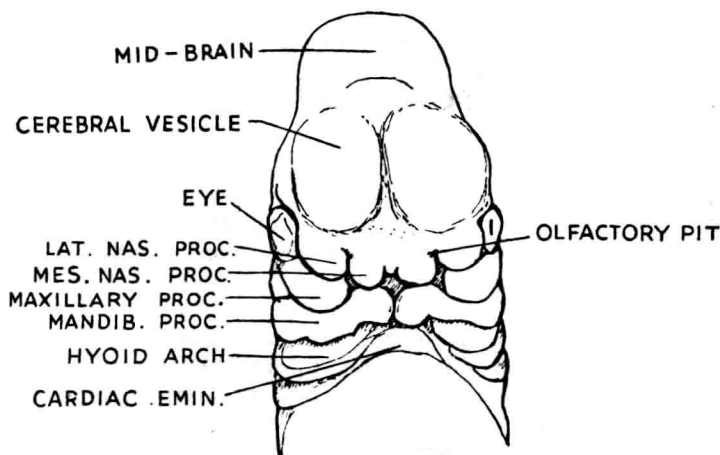


Fig. 1.—The formation of the face by the nasal, maxillary, and mandibular processes in an embryo of the fourth week.

(After His.)

**The pharynx.**—This is formed from the anterior part of the foregut (Figs. 2, 3, 4). The lower part of the face and the neck are developed as a result of the formation of a series of six bars called the visceral or branchial arches. Between the arches there are depressions; those internal are called pouches, those external clefts. The branchial arches and pouches play an important part in the development of the pharynx.

The palatine tonsil is a derivative of the primitive pharynx. In the fourth month solid buds of entoderm grow into the floor of the ventral part of the second pouch, this being called the tonsillar sinus; this recess is bounded by the anterior and posterior pillars of the fauces. The central cells of the buds degenerate, thus forming the crypts of the tonsil. The superior tonsillar fossa, a slit-like fissure in the upper part of the tonsil, is a remnant of the second branchial pouch; it is bounded above by the plica semilunaris, a fold of mucous membrane stretching from the anterior to the posterior pillar of the fauces.

Prior to the rupture of the bucco-pharyngeal membrane, a diverticulum, the pouch of Rathke, extends upwards from the roof of the stomodæum to come into contact with the floor of the forebrain (Fig. 2). From the fusion of this diverticulum with a similar pouch derived from the brain there is

formed the pituitary body, the anterior lobe originating from the ectoderm of the stomodæum. The track taken by Rathke's pouch sometimes persists as the cranio-pharyngeal canal; this runs through the body of the sphenoid from the sella turcica to an opening on the under surface of the skull covered by the vomer (Fig. 3).



Fig. 2.

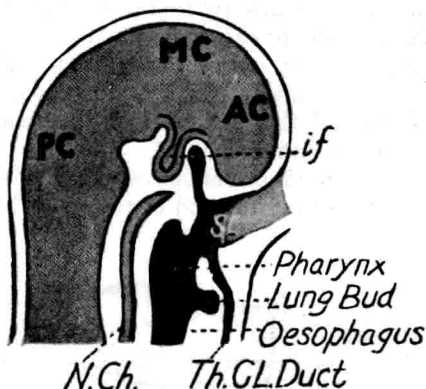


Fig. 3.

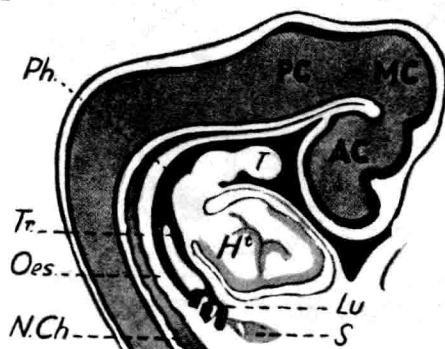


Fig. 4.

Figs. 2, 3, and 4.—The embryological air-passage.

The development of the mouth, pharynx and oesophagus and lung bud is illustrated. In Fig. 2 the stomodæum and foregut are not yet in communication; the intervening membrane has broken down in Fig. 3. Fig. 4 shows further development, as seen in a human embryo about 5 weeks old. (From Cunningham, "Textbook of Anatomy.")

PC, MC, AC, posterior, middle and anterior cerebral vesicles; St, stomodæum; fg, foregut; if, infundibulum; Pr, pouch of Rathke; N.Ch, notochord; Th. GL. Duct, thyro-glossal duct; T, tongue; Ht, heart; Ph, pharynx; Tr, trachea; Lu, lung bud; Oes, oesophagus; S, stomach.

In the roof of the primitive pharynx, a short distance behind Rathke's pouch, there is a connexion between the notochord and the entoderm; this persists for some time, leading to a small angled recess known as Luschka's pouch, which subsequently becomes the pharyngeal bursa. In the third month the pharyngeal tonsil is formed round the bursa by the growth of lymphoid tissue from the surrounding mesoderm.

A study of Fig. 3 will explain the origin of the thyro-glossal duct, the appearance of cysts in the middle line over the front of the thyroid cartilage



