

LEPROSY IN THEORY
AND PRACTICE

LEPROSY IN THEORY AND PRACTICE

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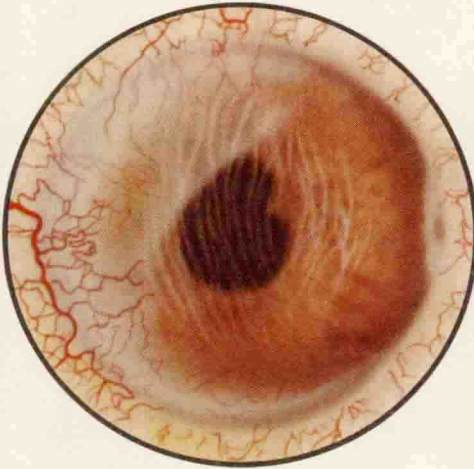
SECOND EDITION



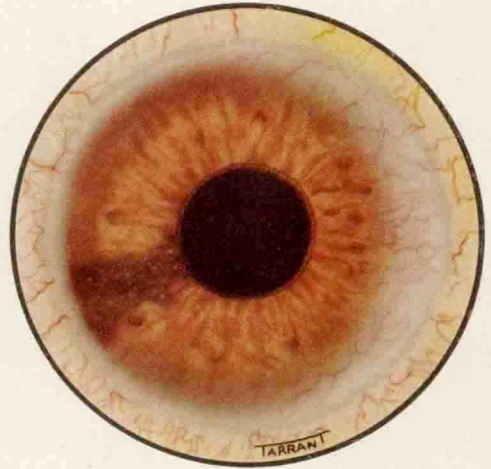
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LEPROSY IN THEORY AND PRACTICE



Right Eye



Left Eye

Ocular leprosy. *Right Eye*, Advanced sclerosing keratitis, with folds in Descemet's membrane.
Left Eye, Early sclerosing keratitis, showing section of miliary iris lepromata.

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THIS BOOK IS DEDICATED TO SUFFERERS FROM
LEPROSY THE WORLD OVER, WHOSE COURAGE AND
PATIENT ENDURANCE HAVE INSPIRED THOSE WHO
WORK WITH THEM, AND WHOSE CO-OPERATION
HAS CONTRIBUTED SO MUCH TO THE ADVANCEMENT
OF KNOWLEDGE

DOMINUS CONDUXIT ME INTER LEPROSOS
ET FECI MISERICORDIAM CUM ILLIS

Ex Testamento S. Francisci

PREFACE TO THE SECOND EDITION

THE fact that the first edition of this book went out of print within three years is some indication that leprology, as a subject, is gaining an increasing interest in the world of Medicine.

While there are a number of exceedingly useful monographs and lecture notes on leprosy in several languages there is, undoubtedly, a place in medical literature for a comprehensive text-book, and in this edition we have attempted, we hope still more successfully, to integrate leprosy into the whole fabric of Medicine, for it appears to us that, in such a complicated and in some ways mysterious disease as leprosy, the help of all scientific disciplines must be enlisted if we are to make further headway towards the conquest of this age-long and chronic disease, which still strikes terror into the heart of man.

Leprosy, because of its religious association, its antiquity and mutilating propensities, has emotional overtones which are absent from other chronic diseases. While it is admitted that a physician, if he is to understand his patient, must, in the presence of such suffering as leprosy frequently causes, experience a surge of emotion, nevertheless this reaction must be kept under control. If leprosy is thought of too much in terms of sentiment it will, as is too often the case today, continue to be regarded as a separatist disease, and general physicians will see no real medical challenge in leprosy. The main burden of the campaign will continue to fall on the shoulders of paramedical workers and the few doctors who are attracted to Medicine from philanthropic and religious motives. The days for this limited approach are over.

The importance of non-physical factors—psychological and spiritual—in the treatment of disease conditions is receiving greater attention, and rightly so, and there is a welcome *rapprochement* between the physician and the priest and religious teacher. Even in these realms, however, it should be remembered that leprosy should be looked upon in no different manner from any other chronic malady, some of which are more mortal and just as mutilating and socially disturbing as leprosy.

It is hoped, therefore, that this book will not only be a guide to workers in leprosy, but that it will help the general practitioner in the tropics and elsewhere to recognize leprosy when he sees it and to appreciate its importance in the wider setting of Medicine. The disease is now no longer solely of tropical interest, but of growing practical importance because increasing numbers of persons suffering from leprosy have emigrated from areas of relatively high prevalence into non-endemic centres. Furthermore, because of the close link-up of leprosy to basic and fundamental sciences, research workers in microbiology, immunology, neuro-anatomy, pathology, tuberculosis, orthopædic surgery, preventive medicine, and in the social sciences, such as genetics and social welfare, will find in this book information which will not only be of help to them but will give them stimulus and inspiration to pursue their researches with still greater zest.

As in the previous edition so in this, it will be noted that we have used the traditional name 'Leprosy' in our description of this disease. We have refrained from using such synonyms as 'Hansen's Disease' because leprosy was accurately described clinically many centuries before Hansen discovered the *Mycobacterium lepræ*. It would be correct to name leprosy 'Hansen's Infection', but as this is

a clumsy and ungainly term it would not receive general approval. To change the name at this time would be inappropriate because much of the financial support in the campaign against leprosy comes through charitable organizations. If, however, the disease were to be renamed scientifically, 'Mycobacteriosis Hansenii' would be more correct, or Dr. Ross Innes's suggestion, 'Mycobacterial Neuro-dermatitis', might be adopted. If, however, a scientific name of this kind were adopted instead of the now familiar name, Leprosy, the general public would be so confused that the sources of philanthropy would be in danger of drying up. It must be borne in mind that the pressure to change the name of the disease stems from the same emotional reaction with which we are at such variance. It must be admitted that much of the unreasoned fear of leprosy is the result of equating the disease we know as leprosy with several infections described in the Biblical record. From this follows a widespread belief that leprosy is associated with guilt, and the stigma attached to leprosy can frequently be traced to a misinterpretation of the Hebrew word *sarāath*. The leprosy described, particularly in the Old Testament, was in all probability a group of diseases which were symbolic of ceremonial defilement.

In the first chapter we have endeavoured to show how mistaken and widespread is this false belief, and we are grateful to Professor D. Wiseman of the School of Oriental Studies, London, and to Professor G. R. Driver of Magdalen College, Oxford, for their valuable assistance in the preparation of this chapter. If we could dissociate the word leprosy from its excessive emotional bias and look upon the disease in the same light as we would view any other infection, we should make more rapid progress in controlling leprosy in countries in which it is endemic.

We would express our appreciation of the continued interest and encouragement which Sir George McRobert has given. We, once again, owe him a debt of gratitude for so kindly writing the Foreword to this present volume.

It is no light task to compile a book such as this purports to be—a comprehensive treatise of all aspects of Leprology, demonstrating the relevance of leprosy to the whole field of Medicine. Therefore, as in the first edition so in this, the contributors chosen to write the various chapters are specialists in their own right, but are not necessarily leprologists. We are grateful to the previous authors for kindly consenting to revise their chapters, for their task has been no easy one and we appreciate the excellency of their work. All the original chapters have been revised and many have been rewritten, and we welcome Dr. James N. Miller as co-author with Professor Carpenter of the chapter on Bacteriology, and Dr. H. Jocelyn Smyly as co-author of the chapter on Classification.

Owing to the great advances not only in leprosy but in the field of fundamental sciences, several new chapters have been added to this edition. The subject of Genetics in Leprosy is receiving greater and greater attention, and we are grateful to Dr. Spickett of the Department of Human Genetics at Cambridge University for contributing a careful review of this subject, which will be found stimulating and thought-provoking. It would, however, not be right if we did not pay tribute to Dr. Kinnear Brown, who was among the first to draw attention to the importance of the consideration of genetics in the epidemiology of leprosy, for it was his original article in the *Leprosy Review* which caused one of us (R. G. C.) to get into touch with the Department of Genetics at Cambridge University so that this subject might be reviewed by a specialist geneticist, and we feel that the work which has been done in this field will open up the way to an entirely new concept of the disease.

The chapter on Immunology has been divided into two sections. Dr. Gardner Middlebrook, who is an outstanding worker in the field of Immunology of Mycobacterial Diseases, has contributed the Introduction to this chapter, and Dr. Olaf Skinsnes, Professor of Pathology in the University of Chicago, who has had many years of experience in leprosy in the Far East, has reviewed the Immunology of Leprosy in an exhaustive and clear fashion.

During the last 10 years the whole subject of the significance of the lepromin test has been brought under review, and Dr. Alex Kuper, with his vast experience of the problems of hypersensitivity in mycobacterial disease, has made a detailed study of the lepromin test, and has dealt with this subject in some detail and in its right perspective.

Dr. Robert Schenck was one of the first to draw attention to the importance and significance of the endocrines in the various phases of leprosy. He joins one of us (T. F. D.) in gathering together the available material and outlining the important points with regard to Endocrinology and Leprosy. In this connexion, because of the importance of the corticosteroids in the whole management of the disease, we have been fortunate enough to secure the help of Dr. H. F. West, who directs the Sheffield Centre for the Investigation and Treatment of Rheumatic Diseases, to contribute a chapter on the General Principles of Corticosteroid Therapy.

Because of Dr. Vasant Khanolkar's earlier work and the detailed investigations by Dr. Graham Weddell and his colleagues, the significance of the Schwann cell is becoming more appreciated, and Dr. C. E. Lumsden, Professor of Pathology at the University of Leeds, has written of the significance of the Schwann Cell in the acquirement and development of leprosy.

Dr. Stanley Browne, who is in charge of the Federal Research Centre, Uzuakoli, Nigeria, has dealt most competently with the subject of Differential Diagnosis, and Dr. D. L. Leiker, Leprologist for Northern Nigeria, has added a note on a new clinical manifestation seen in Northern Nigeria which is likely to be confused with leprosy.

We are fortunate in being able to produce a more balanced chapter on Lesions of the Nose, Throat, Ears, and Mouth in Leprosy through the kindness of Dr. Ray Breau, Dental Surgeon in charge of the Dental Department in the United States Public Health Service Hospital, Carville, who has outlined the importance of Dental Care in Leprosy.

There was a grave omission from the first edition of the book, which has been remedied by the inclusion of a chapter on Neuritis in Leprosy. Dr. William Jopling, who has had much experience of leprosy in the United Kingdom, has kindly consented to review that most complicated of all problems, the Treatment of Acute Phases (Reactional States) in Leprosy.

We are fortunate to have a contribution on the possibilities of Plastic Surgery from Mr. N. H. Antia, who delivered the Hunterian Lecture at the Royal College of Surgeons in 1962.

Because of the extensive experience of Mr. E. W. Price in the Care of the Feet, we have asked him to contribute the chapter on this subject. We feel sure that this will be one of the most helpful chapters, for Mr. Price is a recognized authority on Reconstructive Surgery on the Foot. In an Addendum to this chapter Dr. Felton Ross writes on the Prevention of Plantar Ulcers, which we trust will be of practical help.

The chapter on Physiotherapy has been expanded and includes a section by Mr. David Ward of the Schieffelin Leprosy Research Sanatorium, Karigiri, Vellore,

on Plantar Ulceration and Footwear in Leprosy. Mrs. Ruth Thein (*née* Thomas) also wishes to acknowledge his assistance in her section on Splinting and Post-operative therapy.

Due to advances in leprosy and increased widespread interest in Rehabilitation, we felt that a separate chapter on Occupational Therapy should be included, and Mrs. Kamala Nimbkar, the well-known Occupational Therapist in India, has kindly contributed this chapter.

The chapter on Radiographic Appearances and Bone Changes in Leprosy has been thoroughly revised, and Dr. Paterson has had the valuable assistance of Dr. C. K. Job, Reader in Pathology at the Christian Medical College, Vellore, in its preparation.

The chapter on Prevention has been greatly expanded and we have called upon the experience of Dr. Charles Ross of West Africa, of Dr. Claire Vellut of India, and of Dr. Dharmendra, Director of the Leprosy Research and Training Centre at the Lady Willingdon Leprosy Sanatorium, Chingleput, Madras, and we are grateful for these contributions.

We wish to express to this team of international experts, all of whom are extremely busy, our heartfelt and grateful thanks. Because of the many points of view which are expressed in this work it is confidently hoped that this second edition will prove even more helpful and valuable to workers in the field of leprosy, and to those, also, who are desirous of investigating this most intriguing disease in relation to its importance in regard to their own researches. If these objectives are achieved leprosy will have established itself firmly in Medicine, and our contention that leprosy has a unique place in the advancement of knowledge throughout the whole field of Medicine will have been demonstrated.

Dr. Brieger and Miss Allen wish to acknowledge the support from the Colonial Office, and the preparation of the electron micrograms at the Strangeways Laboratory, Cambridge, which made possible the work carried out in the preparation of Chapter III. Dr. Schenck wishes to record his thanks to Dr. C. Y. Bowers, Assistant Professor of Medicine, Tulane University, New Orleans, for his assistance in the early stages of preparation of material.

Our thanks are due to Mrs. R. G. Cochrane for her drawing of the diagram illustrating the Classification of Leprosy (*Fig. 108*); to Dr. Ebenezer Roy, Professor of Ophthalmology, Christian Medical College, Vellore, for the diagrams of varieties of leprosy in Appendix II, which were first prepared when he was Assistant Medical Officer at the Lady Willingdon Leprosy Sanatorium; and to Mr. C. Edge for two diagrams added to the chapter on Physiotherapy (*Figs. 230, 231*). The Frontispiece and colour pictures in Chapter XVII were kindly supplied by Mr. D. P. Choyce. Mr. Michael Jefferies drew the two new illustrations in Mr. Brand's chapter on Deformity (*Figs. 178, 180*), and the *Journal of Bone and Joint Surgery* kindly gave permission to reproduce diagrams of the J. G. Andersen Tunneller from illustrations which appeared in the August, 1961 number.

We also acknowledge our indebtedness to the Institute of Dermatology, and to Mr. R. J. Lunnon, A.I.B.P., F.R.P.S., Lecturer in Clinical Photography, for the photomicrograph of Mkar Disease, and to Messrs. Kodak Ltd., for preparing the colour print of the same (*Fig. 107*).

A special vote of thanks is due to the Publishers, Messrs. John Wright & Sons Ltd., Bristol, who have, as with the first edition so in this, given understanding and sympathy in our task of producing a text-book which, we trust, maintains the highest traditions of the Firm. As is their custom, the Harvard system of references to literature has been adopted throughout the book.

We would also express our appreciative thanks to American Leprosy Missions, Inc., for without their financial help in meeting the salaries of staff at 57a Wimpole Street it would have been impossible to publish this text-book. We are also grateful to the Methodist Missionary Society for their goodness in permitting much of this work to be checked and reviewed during office time.

We cannot close this Preface without expressing our gratitude to Dr. Douglas J. Harman for his critical assessment of proofs, and without acknowledging the devoted and loyal assistance of our secretarial staffs, particularly that of Miss Eileen M. C. Ball and of Miss Mabel Richardson and Miss Kathleen Taylor, all of whom have worked willingly and competently, and have spent much time, in and out of their office hours, preparing the manuscripts for press. It will be realized that to compile a book of this nature is a task of some magnitude, and were it not for the admirable teamwork of our respective staffs this volume would never have been completed.

If this book stimulates and encourages a greater interest in, and a better understanding of, leprosy, and enables workers in remote institutions more effectively to serve those who suffer, then the time and effort of the many who have worked to produce it will be amply rewarded.

London,
February, 1964

R. G. COCHRANE
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FOREWORD

By SIR GEORGE McROBERT, C.I.E., M.D. (Aberd.), F.R.C.P. (Lond.)

*President, Royal Society of Tropical Medicine and Hygiene
Consulting Physician, Hospital for Tropical Diseases, London
Formerly Professor of Medicine, Madras Medical College*

THE first edition of this comprehensive text-book on leprosy has been out of print for some long time, its success, as one had predicted, having been phenomenal.

Instead of issuing reprints, the publishers wisely commissioned Dr. Cochrane to produce an even more all-embracing work.

With his unique position as leprosy consultant to authorities on both sides of the Atlantic, Dr. Cochrane has been able once more to importune a number of specialists to put forward their views and to give technical advice in their own particular fields. Dr. T. F. Davey, C.B.E., whose outstanding work in Nigeria is familiar to all leprologists, has joined Dr. Cochrane as co-editor.

In these days when the interests of the biological researcher extend not only to intracellular systems but down to molecular and atomic levels, when research into problems connected with protozoa and bacteria is regarded as nearing its end—with virology holding the field as the centre of interest—it is salutary to be reminded that *Mycobacterium lepræ* still defies the most modern research methods and presents important unsolved problems.

Dr. Cochrane deserves great credit for inducing workers in basic sciences to take up the study of *M. lepræ* as a tool in their own special fields. Significant results are to be seen in the field of neuro-anatomy; in that of immunology the outlook is promising.

In the past few years we have become less optimistic than in the mid-fifties with regard to the possibility of obtaining complete cures from sulphones and related drugs in our armamentarium. Relapses occur even with regular and prolonged administration, and disappointment has, all too often, to be faced after years of apparent improvement. Research must go on. Newer and even better drugs must be sought. New methods of inducing immunity must be found. The slogan 'Leprosy can be cured' adopted by some authorities should give way to 'Leprosy *must* be cured'.

In the meantime the practical worker has to deal with existing disease, to lessen present disabilities, to provide prostheses for deformed limbs, to encourage, to lift up hearts, and, above all, to prevent.

This volume shows how each one of these aspects of the fight against leprosy can be tackled with competence.

*London,
January, 1964*

CONTENTS

| CHAPTER | PAGE |
|--|------|
| FOREWORD - - - - - | xix |
| I.—THE HISTORY OF LEPROSY AND ITS SPREAD THROUGHOUT THE WORLD - - - - - | 1 |
| II.—THE BACTERIOLOGY OF LEPROSY - - - - - | 13 |
| III.—THE SUBMICROSCOPICAL STRUCTURE OF THE MYCOBACTERIUM LEPRÆ - - - - - | 26 |
| I. Application of Quantitative Electron Microscopy to the Study of <i>M. Lepræmurium</i> and <i>M. Lepræ</i> | |
| II. The Submicroscopical Structure of <i>M. Lepræ</i> and the Cell of Virchow (Lepra cell) | |
| IV.—THE ACID-FAST BACTERIA - - - - - | 41 |
| V.—NON-LEPROUS AND NON-TUBERCULOUS MYCOBACTERIAL INFECTIONS - - - - - | 50 |
| VI.—EPIDEMIOLOGY - - - - - | 69 |
| VII.—GENETIC MECHANISMS IN LEPROSY - - - - - | 98 |
| VIII.—PATHOLOGY OF LEPROSY - - - - - | 125 |
| IX.—IMMUNOLOGY IN LEPROSY - - - - - | 152 |
| I. General Aspects of the Immunology of Mycobacterial Infections | |
| II. The Immunological Spectrum of Leprosy | |
| X.—THE LEPRONIN REACTION - - - - - | 183 |
| XI.—THE ENDOCRINES IN LEPROSY - - - - - | 190 |
| XII.—RECENT INVESTIGATIONS INTO THE SENSORY AND NEUROHISTOLOGICAL CHANGES IN LEPROSY - - - - - | 205 |
| XIII.—LEPROSY AND THE SCHWANN CELL <i>in vivo</i> AND <i>in vitro</i> - - - - - | 221 |
| XIV.—SIGNS AND SYMPTOMS - - - - - | 251 |
| Macular, Infiltrated, and Neuritic Lesions | |
| XV.—DIFFERENTIAL DIAGNOSIS - - - - - | 280 |
| XVI.—CLASSIFICATION - - - - - | 299 |
| XVII.—THE EYES IN LEPROSY - - - - - | 310 |
| XVIII.—LESIONS OF THE NOSE, EAR, MOUTH, AND THROAT - - - - - | 322 |
| I. Lesions of the Nose, Throat, and Ears | |
| II. Lesions of the Mouth with Special Emphasis on the Importance of Dental Care | |
| XIX.—COMPLICATING CONDITIONS DUE TO LEPROSY - - - - - | 331 |
| XX.—CHEMOTHERAPY - - - - - | 344 |
| XXI.—THERAPY - - - - - | 371 |
| XXII.—NEWER DRUGS IN THERAPY—AN APPRAISAL AND COMPARISON | 391 |
| XXIII.—GENERAL PRINCIPLES OF CORTICOSTEROID THERAPY - - - - - | 405 |
| XXIV.—NEURITIS IN LEPROSY - - - - - | 410 |
| XXV.—TREATMENT OF ACUTE PHASES (REACTIONAL STATES) IN LEPROMATOUS LEPROSY - - - - - | 418 |
| XXVI.—BONE CHANGES AND ABSORPTION IN LEPROSY - - - - - | 425 |
| XXVII.—DEFORMITY IN LEPROSY - - - - - | 447 |

| CHAPTER | PAGE |
|---|------|
| XXVIII.—RECONSTRUCTIVE SURGERY OF THE FACE - - - | 497 |
| XXIX.—THE CARE OF THE FEET - - - | 510 |
| XXX.—PHYSIOTHERAPY - - - | 537 |
| I. Physiotherapeutic Methods in the Relief of Deformity | |
| II. Plantar Ulceration and Footwear in Leprosy | |
| XXXI.—OCCUPATIONAL THERAPY IN LEPROSY - - - | 559 |
| XXXII.—PROGNOSIS AND CRITERIA OF DISCHARGE - - - | 568 |
| XXXIII.—PREVENTION - - - | 576 |
| I. General Considerations | |
| II. Survey and Follow-up Work in Leprosy | |
| III. Leprosy in Relation to its Impact on Society | |

APPENDIXES

| | |
|---|-----|
| I.—TECHNIQUES OF EXAMINATION - - - | 612 |
| II.—DIAGRAMMATIC REPRESENTATIONS OF LESIONS IN LEPROSY - | 616 |
| III.—BACTERIAL INDICES - - - | 620 |
| IV.—THE PREPARATION OF MITSUDA LEPROMIN - - - | 623 |
| V.—PRACTICAL NOTES ON TECHNIQUE FOR USE IN PREPARING SECTIONS FROM BIOPSIES OF THE SKIN FOR HISTOPATHO- LOGICAL EXAMINATION - - - | 626 |
| VI.—USEFUL PRESCRIPTIONS - - - | 632 |
| VII.—THE STERILIZATION OF OILY PREPARATIONS - - - | 636 |
| INDEX - - - | 639 |