

**ELEMENTARY BACTERIOLOGY  
AND PROTOZOÖLOGY: THE  
MICROBIOLOGICAL CAUSES  
OF THE INFECTIOUS DISEASES**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649570201

Elementary Bacteriology and Protozoölogy: The Microbiological Causes of the Infectious Diseases by Herbert Fox

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

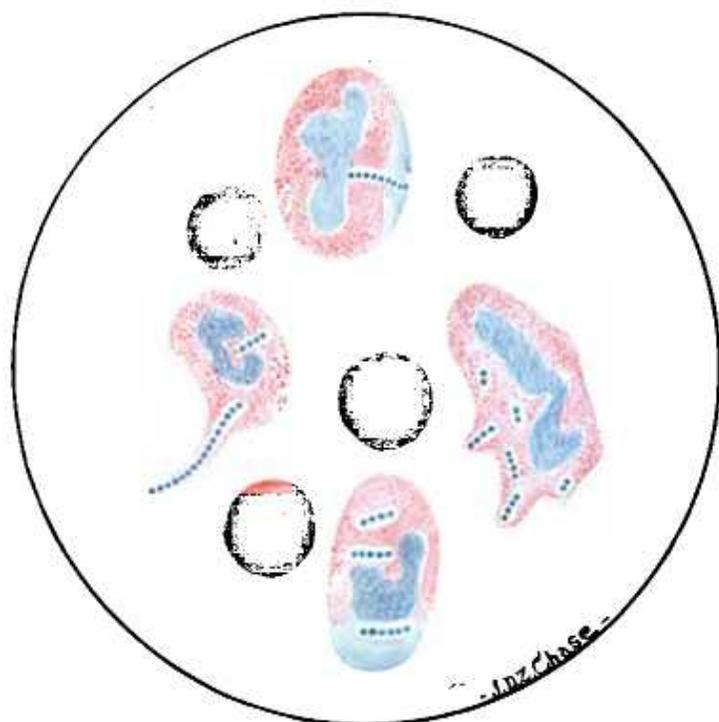
[www.triestepublishing.com](http://www.triestepublishing.com)

**HERBERT FOX**

**ELEMENTARY BACTERIOLOGY  
AND PROTOZOÖLOGY: THE  
MICROBIOLOGICAL CAUSES  
OF THE INFECTIOUS DISEASES**



PLATE I



White Cells of the Blood, Leukocytes, Acting as Phagocytes or Cell Eaters; Streptococci in Chains Being Consumed.

Entered according to the Act of Congress, in the year 1912, by  
LEA & FEBIGER,  
in the Office of the Librarian of Congress. All rights reserved.

r QR46

Γ6

B4C.

## PREFACE

---

THE present work has been prepared to give the nurse and the beginner an idea as to the nature of microorganisms and their relation to the world's economy, especially in disease. For this reason much technical material has been omitted, especially in the subject of biological differentiation. Emphasis has been laid upon how bacteria pass from individual to individual, how they enter the body and act when once within, and their manner of exit. Such general information concerning the character of the disease process has been included as seemed necessary to clarify the nature of the microbe action. Indeed, the subject matter in many places is but elementary bacteriological pathology. During the preparation of the work the author has had in mind a question he has been asked repeatedly: How do bacteria produce disease? That this question is answered as simply and as well as our knowledge of today permits is the author's sincerest hope.

H. F.

PHILADELPHIA, 1912.

̄358408



# CONTENTS

## CHAPTER I

INTRODUCTION—HISTORY—THE PLACE OF MICROORGANISMS IN NATURE . . . . .	17
--	----

## CHAPTER II

GENERAL MORPHOLOGY—REPRODUCTION—CHEMICAL AND PHYSICAL PROPERTIES . . . . .	22
--	----

## CHAPTER III

GENERAL BIOLOGY, INCLUDING THE CHEMICAL CHANGES WROUGHT BY BACTERIA . . . . .	33
---	----

## CHAPTER IV

METHODS OF STUDYING MICROORGANISMS—STERILIZATION BY HEAT . . . . .	37
--	----

## CHAPTER V

DESTRUCTION OF BACTERIA BY CHEMICALS, AND THEIR PRACTICAL USE . . . . .	48
---	----

## CHAPTER VI

THE RELATION OF BACTERIA TO DISEASE—IMMUNITY . . . . .	58
--	----

## CHAPTER VII

PREPARATIONS FOR AND PROCURING OF SPECIMENS FOR BACTERIOLOGICAL EXAMINATION . . . . .	71
---	----

CHAPTER VIII	
THE ACUTE CHIEFLY LOCALIZED INFECTIONS OF PUB NATURE—THE PATHOGENIC COCCI . . . . .	77
CHAPTER IX	
THE ACUTE SELF-LIMITED INFECTIONS . . . . .	98
CHAPTER X	
THE MORE CHRONIC INFECTIOUS DISEASES . . . . .	138
CHAPTER XI	
VARIOUS PATHOGENIC BACTERIA NOT ASSOCIATED WITH A SPECIFIC CLINICAL DISEASE . . . . .	164
CHAPTER XII	
YEASTS AND MOULDS . . . . .	180
CHAPTER XIII	
BACTERIA IN AIR, SOIL, WATER, AND MILK . . . . .	189
CHAPTER XIV	
DISEASES DUE TO PROTOZOA . . . . .	200
CHAPTER •XV	
DISEASES OF UNKNOWN ETIOLOGY . . . . .	215
—————	
GLOSSARY . . . . .	221

# BACTERIOLOGY AND PROTOZOÖLOGY

## CHAPTER I

### INTRODUCTION—HISTORY—THE PLACE OF MICROÖRGANISMS IN NATURE

#### INTRODUCTION

THE study of disease has brought to light many facts which demonstrate the effect of the association of different forms of life. Chief among these is the fact that minute beings live upon greater ones, either harmlessly or to the detriment of the latter. The study of these small creatures is called microbiology, this being the portion of general biology in which the use of magnification is necessary. Bacteria are classified as plants and their study is called bacteriology. The smallest animals, protozoa, are considered in the subject of protozoölogy. To explain the causation of infectious diseases the physician has been obliged to study both of these subjects, that is, the large field of microbiology. The lowest forms of life are unicellular bodies capable of leading an independent existence, in contrast to the single units of the cell groups which go to make up the compound organism, a higher animal or a plant. Some of these single-celled bodies have