

**LABORATORY DIRECTIONS FOR
BEGINNERS IN BACTERIOLOGY: AN
INTRODUCTION TO PRACTICAL
BACTERIOLOGY FOR STUDENTS AND
PRACTITIONERS OF COMPARATIVE AND
OF HUMAN MEDICINE**

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Laboratory Directions for Beginners in Bacteriology: An Introduction to Practical Bacteriology for Students and Practitioners of Comparative and of Human Medicine by Veranus A. Moore

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AN APARTMENT INCUBATOR



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PARATIVE AND OF HUMAN MEDICINE

BY

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THIRD EDITION
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PREFACE TO THE THIRD EDITION

THE rapid advances that are constantly being made in bacteriological work demand frequent changes in directions for laboratory practice. The subject-matter contained in this elementary work has been readjusted to satisfy these requirements, a few exercises on new topics have been introduced, and the methods given have been modified to better meet the conditions of student laboratory work. Continued experience has strengthened our former opinion that a laboratory guide which outlines the work for each exercise and gives specific instructions for the same is of great assistance to both student and teacher. I desire to express my thanks and appreciation to Mr. G. Franklin White and Mr. Walter E. King for many valuable suggestions that have been incorporated in the recasting of these exercises.

V. A. M.

ITHACA, N.Y.
November, 1904

106133

PREFACE TO THE SECOND EDITION

THE call for a second edition of these Laboratory Directions has come in such a short time that many of the difficulties encountered in the preparation of the first edition still remain. The choice of subject-matter and the selection of methods for a short elementary laboratory course become more and more difficult with the rapidly increasing developments in bacteriology. The recognized etiological importance of a number of bacteria which formerly were considered of little significance necessitates, for the best results, an extension of a knowledge of bacteriology beyond the differential characters and properties of a few pronounced pathogenic species.

Experience with the first edition has clearly demonstrated the advantage to both student and teacher of specific directions for a working basis in carrying out the various procedures in a laboratory course. The exercises have been considerably modified, four new ones added, and a few references appended for the purpose of aiding students in familiarizing themselves with the current literature on the subject.

In revising these exercises new text and reference books have been freely consulted. Valuable suggestions have also been received from a number of teachers and investigators. I am especially indebted for such assistance to Dr. Theobald Smith of Harvard University, Dr. Erwin F. Smith of the United

States Department of Agriculture, and to Mr. Raymond C. Reed and Mr. Floyd R. Wright, Instructors in the Department of Bacteriology in Cornell University. Suggestions and criticisms which may tend to increase the usefulness of these outlines are cordially invited.

V. A. M.

ITHACA, N.Y.

June, 1900

PREFACE TO THE FIRST EDITION

It has been found desirable to provide the student, just beginning the study of bacteriology, with a somewhat detailed outline of the work to be done at each laboratory session. The selecting of the particular things to be done and the choosing of methods to be followed are difficult tasks. The assigning of directions for doing work under assumed conditions must necessarily partake of the empirical, and often fail. It is evident, however, that practical bacteriology must, if successfully taught, be cast in a somewhat definite form in order that the student may come to a knowledge of the fundamental principles underlying the subject in its twofold capacity, that of a pure science and of a useful art.

These outlines are intended either to serve simply as a guide through an introductory laboratory course preparatory to independent research work, or to form the basis for the application of the principles of bacteriology in the practice of human or of comparative medicine. They aim to impart a technical and working knowledge of certain of the more essential methods and to develop a definite knowledge of a few important species of bacteria. During the past year, they were furnished the students in mimeographed sheets, but after making the changes suggested by this application it seems desirable to put them in a more convenient form. In adjust-

ing the amount of work for each exercise to the necessary limitations of time and facilities, I am indebted to Mr. Raymond C. Reed, Instructor in this Department, for much valuable assistance. I wish also to thank Professor Charles Wright Dodge of the University of Rochester for helpful suggestions. Should these outlines fall in the hands of other teachers or workers in this subject, criticisms are cordially invited.

V. A. M.

ITHACA, N.Y.

August, 1898