

**THE ESSENTIALS OF  
CHEMICAL  
PHYSIOLOGY; FOR  
THE USE OF STUDENTS**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649577217

The Essentials of Chemical Physiology; For the Use of Students by W. D. Halliburton

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**W. D. HALLIBURTON**

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*Wm. L. Fisher, Author*  
*Boston. 1897.*

CHEMICAL PHYSIOLOGY

*By the same Author.*

A TEXT-BOOK OF CHEMICAL PHYSIOLOGY  
AND PATHOLOGY.

With 104 Illustrations. 8vo. 28s.

LONGMANS, GREEN, & CO.  
London, New York, and Bombay.

5559

THE ESSENTIALS  
OF  
CHEMICAL PHYSIOLOGY

FOR THE USE OF STUDENTS

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*SECOND EDITION*

LONGMANS, GREEN, AND CO.

LONDON, NEW YORK, AND BOMBAY

1896

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1846

PREFACE  
TO  
THE SECOND EDITION

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THE ALTERATIONS in the present edition are not extensive. They are only those which experience in teaching has shown to be advisable, or which the advance in knowledge has rendered necessary.

Two new figures have been introduced—namely fig. 88, from Professor GAMGEE'S 'Physiological Chemistry,' and fig. 70, from Sir GEORGE JOHNSON'S 'Medical Lectures and Essays.' For leave to use these I beg to thank the respective authors and publishers.

I am also indebted for valuable suggestions to Professor SCHÄFER, Dr. C. J. MARTIN, and Dr. T. GREGOR BRODIE, who has again given me great assistance in the reading of proof-sheets.

W. D. HALLIBURTON.

KING'S COLLEGE : *January* 1896.

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# PREFACE

TO

## THE FIRST EDITION

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THIS book is written with the object of supplying the student with directions for examining practically the most important of the subjects included under the heading Chemical Physiology, or Physiological Chemistry. At the same time it is intended to serve as an elementary text-book of the subject.

The plan of the work is the same as that adopted by Professor SCHÄFER, in his 'Essentials of Histology.' The practical lessons are followed by a brief description of the matter of which they treat. Each of the elementary lessons may be supposed to occupy a class for one hour. The advanced lessons will take more time—usually two hours.

The practical lessons are those which I have been using for many years past in my own classes. Their original source is the 'Syllabus of Lectures' published by Professor J. BURDON SANDERSON in 1879, and although some few of the lessons are but little altered, the greater number have been very considerably modified to include the results of recent researches.

The illustrations have for the most part been transferred from my text-book of 'Chemical Physiology and Pathology.' A few additional figures have been expressly drawn for this work. Figs. 4, 10, and 15 have been taken from YEO's 'Physiology'; figs. 16 and 17 from MCKENDRICK's 'Physiology'; figs. 51 and 52 from BRYANT's 'Surgery'; and figs. 72 and 73 from WALLER's 'Physiology.' For leave to use these I beg to tender my thanks to the respective authors and publishers.

The duty of reading the 'proof-sheets' has been greatly lightened for me by my friend Dr. T. G. BRODIE, and I have to thank him for many valuable suggestions and alterations.

W. D. HALLIBURTON.

KING'S COLLEGE: July 1893.

# CONTENTS

INTRODUCTION . . . . .	PAGE 1
------------------------	-----------

## *ELEMENTARY COURSE*

LESSON	
I. THE CARBOHYDRATES AND FATS . . . . .	9
II. THE PROTEIDS . . . . .	18
III. THE ALBUMINATES AND ALBUMINOIDS . . . . .	24
IV. MILK, FLOUR, BREAD . . . . .	28
V. SALIVA . . . . .	36
VI. PEPTIC DIGESTION . . . . .	43
VII. PANCREATIC DIGESTION . . . . .	50
VIII. BILE . . . . .	57
IX. THE BLOOD . . . . .	68
X. URINE . . . . .	88
XI. URINE (continued) . . . . .	100
XII. PATHOLOGICAL URINE . . . . .	109
SCH EME FOR DETECTING PHYSIOLOGICAL PROXIMATE PRINCIPLES . . . . .	114

## *ADVANCED COURSE*

INTRODUCTION . . . . .	119
LESSON	
XIII. CARBOHYDRATES . . . . .	120
XIV. ACTION OF MALT UPON STARCH . . . . .	123
XV. COAGULATION OF MILK . . . . .	124
XVI. FLOUR . . . . .	126
XVII. THE ALBUMOSSES . . . . .	127

LESSON	PAGE
XVIII. DIGESTION . . . . .	128
XIX. SECRETION OF SALIVA. ZYMOGEN GRANULES . . . . .	131
XX. HEMOGLOBIN AND ITS DERIVATIVES . . . . .	132
XXI. SERUM . . . . .	135
XXII. COAGULATION OF BLOOD . . . . .	137
XXIII. MUSCLE . . . . .	140
XXIV. UREA AND CHLORIDES IN URINE . . . . .	143
XXV. ESTIMATION OF PHOSPHATES AND SULPHATES IN URINE . . . . .	147
XXVI. URINE. MISCELLANEOUS EXERCISES . . . . .	150

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## APPENDIX

GOWERS' HEMACYTOMETER . . . . .	152
GOWERS' HEMOGLOBINOMETER . . . . .	153
VON FLEISCHL'S HEMOMETER . . . . .	153
SPECIFIC GRAVITY OF BLOOD . . . . .	154
SOLEIL'S SACCHARIMETER . . . . .	154
ZEISS'S POLARIMETER . . . . .	156
LAURENT'S POLARIMETER . . . . .	156
SPECIFIC ROTATORY POWER . . . . .	157
THE SPECTRO-POLARIMETER . . . . .	157
SIR GEORGE JOHNSON'S PICO-SACCHAROMETER . . . . .	158
PFLÜGER'S MERCURIAL AIR-PUMP . . . . .	160
ANALYSIS OF GASES . . . . .	162
KJELDAHL'S METHOD OF ESTIMATING NITROGEN . . . . .	162
MICROCHEMICAL DETECTION OF PHOSPHORUS, IRON, AND GLYCOGEN . . . . .	164
INDEX . . . . .	165