

RATIONAL HYDROTHERAPY

A MANUAL OF

The Physiological and Therapeutic Effects of Hydriatic
Procedures, and the Technique of Their Appli-
cation in the Treatment of Disease

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"Art of Massage;" etc., etc.*

WITH TWO HUNDRED NINETY-THREE ILLUSTRATIONS
EIGHTEEN IN COLORS

SECOND EDITION

PHILADELPHIA
F. A. DAVIS COMPANY, PUBLISHERS
1903

Entered according to Act of Congress, 1900 and 1902,

by

J. H. KELLOGG, M. D.,

In the office of the Librarian of Congress, Washington, D. C.

Also entered at Stationers' Hall, London, England.

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TO HIS FRIEND,

Dr. Wilhelm W. Winternitz,

Professor of nervous diseases in the Royal and Imperial
University of Vienna, and founder of the
first hydriatic clinic,
the author respectfully dedicates this volume.

PREFACE.

WHEN the famous Sydenham wrote his treatise on fevers, he apologized for departing so far from the current practice of his day as to recommend the employment of hydriatic measures as being preferable to bleeding in the treatment of febrile disorders. This innovation was made with much fear and trembling on the part of the famous old physician, who expressed his expectation that his advocacy of water as a febrifuge would render him so unpopular with the members of his profession as to destroy his practice and reputation.

Thanks to the progress made in the development of rational medicine within the last century, and especially within the last twenty-five years, it is no longer necessary to offer an apology to scientific medical men for the recommendation of a remedy which, though the simplest of all elements, has come to be recognized as one of the most powerful means of influencing the varied functions of the animal body, having, by careful clinical observation and patient laboratory research, been thoroughly rescued from the limbo of blind empiricism and placed upon a scientific and rational basis.

For years excellent scientific treatises on hydrotherapy have existed in the French and German languages, but for nearly half a century not a single systematic English work on the hydriatic treatment of disease has appeared with the exception of the translation of the article by Winternitz in Ziemssen's "System of Therapeutics" and a recent excellent work by Baruch.

The author's purpose in the preparation of this work has been to present, in a more systematic and comprehensive way than has heretofore been undertaken, the "rational" hydrotherapy which has been built up within the last century chiefly through the efforts of Currie, Fleury, and Winternitz,

whose great labors have been supplemented by others too numerous for other mention than that made in the various footnotes and references which will be found in the body of this work. It has also been a part of the author's purpose to record some of the fruits of his own experience within the last twenty-five years, during which time, as superintendent of a large medical establishment, he has had opportunity to make a careful study of hydriatic principles and methods.

The general order of the book is as follows: First, a short historical sketch and a brief résumé of the physical, anatomical, and physiological facts which are especially related to the subject; second, a study of the physiological effects of thermic applications; third, a description of the technique of all useful hydriatic procedures; and, fourth, a section on hydriatic prescription making, in which is presented a brief summary of the indications presented by the diseases most commonly encountered in practice and of the hydric measures required to meet the same. The author hopes to publish later another volume in which the rational hydriatic treatment of individual diseases will be more fully discussed.

The number of procedures described in the work is about two hundred. Many more might have been mentioned, but the writer's design has been to describe only typical hydriatic processes, each possessed of a definite and characteristic therapeutic value. Of those procedures which are the outgrowth of his own experience, the author has mentioned only such as have acquired a recognized value by extended use. Of these, the most worthy of mention are the electric-light bath, the percussion douche, cold mitten friction, cold towel rub, a number of forms of hot and cold compresses and packs, and the simultaneous hot and cold douche.

If the number of procedures presented seems large, it should be remembered that they comprise three complete sets of hydriatic applications, viz.: the bath (full bath, shallow bath, sitz, foot, and other baths), the douche (jet, spray, fan, and other forms of douche in general and local applica-

tion), and the wet cloth (wet sheet pack, rubbing wet sheet, wet girdle, and various other local and general applications of moistened cloths), besides a variety of procedures which a strict classification would place under the head of thermotherapy, phototherapy, and massotherapy.

Some eighteen years ago (1883) the author equipped a laboratory and began the systematic study of the physiological effects of water. Many hundreds of experimental observations have been made by the aid of the calorimeter, the plethysmograph, the ergograph, and various other instruments adapted to the purpose. The results of some of these observations are reported in this work for the purpose of presenting to the reader tangible evidence of the rational basis of this important branch of therapeutics. An earnest effort has been made to present in this work a comprehensive view of scientific hydrotherapy in its varied physiological and therapeutic aspects.

The writer has used for the foundation of this work a series of lectures which he delivered before a class of medical students in the summer of 1890. Similar courses have been given almost yearly since, to classes of increasing number, and there has been a growing demand for a text-book embodying the essentials of the subject-matter presented, and adapted for use by the medical students and nurses, as well as practitioners who desire to obtain a knowledge of the foundation facts and principles of rational hydrotherapy. The first section of the manuscript was prepared for the press in 1897, but urgent professional duties prevented the completion of the work until an opportunity was afforded by a vacation trip to Mexico in the winter of 1899-1900.

Modern scientific research has placed upon a sure foundation the great truth—dimly recognized by the earliest physicians, but wholly lost sight of during the Dark Ages—that healing power is not possessed by physicians nor by remedies, but that the curative process is simply a manifestation of the forces which dwell within the body and which are normally manifested in creating and maintaining the organism: in other words, that the body heals itself. Water, applied

externally or internally, and at such temperatures as may be required, is an agent which more fully than almost any other co-operates with the healing powers of the body in resisting the onset and development of pathogenic processes. There is no other remedy by which the movements of the blood and the blood supply, both general and local, and in fact every form of vital activity, may be so readily controlled as by hydriatic applications.

While water is recognized as without doubt one of the most valuable of all natural agencies, the writer has never permitted himself to be classed with those enthusiasts who place their trust in it as an exclusive measure. It is best employed in connection with the use of electricity, massage, and medical gymnastics. Rational diet is as essential in the treatment of the majority of cases of acute and chronic disease as is water. In the treatment of chronic disorders the regulation of exercise, dress, and of other habits of life is also a matter of paramount importance; also the disuse of tea, coffee, tobacco, and alcoholic beverages, which are often found to sustain a very direct causative relation to the patient's maladies and are without doubt responsible for many failures in which the fault has been unjustly charged to the inefficiency of water as a therapeutic agent.

In the preparation of the physiological part of this work the writer has found of special service the splendid work of Landois and Sterling, the excellent "*Traité de Physiologie*," by Morat and Doyon, and the "*Traité de Physiologie Comparée des Animaux*," by Colin. In addition, the works of Winternitz, Bell, Currie, Fleury, Beni-Barde, Bottey, and numerous other French and German authors, besides a great mass of periodical literature, and many hundreds of monographs which have been accumulated during the last thirty years have been studied and consulted.

A most earnest effort has been made to exclude from this work every procedure and every method for which a thoroughly scientific and physiological foundation could not be presented. The author dares not, however, entertain the hope that his work will be found altogether faultless, and

solicits the candid criticism of those who may do him the honor to peruse these pages, trusting that he may have the privilege of correcting in future editions such errors as may have escaped attention in this, and to record such new facts as future experience and research may develop.

In conclusion, I must not omit to express my obligations and gratitude to my colleagues of the faculty of the Battle Creek Sanitarium, and of the American Medical Missionary College, particularly Drs. David Paulson, Chas. E. Stewart, George Thomason, and Elmer Otis, for invaluable assistance in abstracting the stenographic notes of my lectures to medical classes, and for supervising and personally conducting experimental work, and to Dr. Eshelman for assistance in preparing an exhaustive index. I have also profited by the experience of my friends and colleagues for many years, Drs. Lindsay, Riley, Kress, Rand, and others, and owe much to the patient and painstaking work of a large number of my students in the experimental laboratory. I am also under obligations to my friend, Alois Strasser, M.D., assistant Professor in the Medical Department of the Royal and Imperial University of Vienna, for painstaking revision of the proof sheets and for numerous valuable suggestions. Most of all I am indebted to my friend of many years, Dr. W. W. Winternitz, Professor of Nervous Diseases in the Medical Department of the Royal and Imperial University of Vienna, to whose laborious investigations and acute observations the world is indebted more than to any other living man for the scientific data upon which modern rational hydrotherapy is based, and to whom I am proud to have permission to dedicate this volume.

J. H. KELLOGG.

BATTLE CREEK, AUGUST 1, 1901.

PREFACE TO THE SECOND EDITION.

THE author is glad to improve the opportunity afforded by the publication of a new edition of this work to correct a number of minor errors and to make a number of brief, but important, additions to the text in nearly every section of the work. He also desires to thank the profession of the United States and other English-speaking countries for the kind welcome which they have accorded the work, the cordiality of which has far exceeded his most sanguine hopes.

The interest in therapeutic agents of a non-medicinal character, including heat, light, electricity, exercise, massage, and other physical means, as well as water, is rapidly gaining ground; and, if one may judge by the frequency with which articles and treatises on these subjects are now appearing from the medical press, it may be said that an era of physiological medicine has begun. If this be true, the beginning of the twentieth century will mark the most important epoch in the history of medicine; not that drugs and allied agents must be altogether discarded, but rather that those physiological and physical measures, which during so many ages have been neglected and even despised, shall be given their proper place in practical therapeutics. Having once gained a footing, these powerful agencies, directed by modern positive and precise methods of diagnosis, will easily hold in the future the chief place in the battle against disease.

In conclusion, the author desires to thank numerous friends and reviewers for criticisms and suggestions, many of which he has put to good use in preparing this new edition for the press.

J. H. K.

JUNE 1, 1902.

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* This instrument is in use in the leading gymnasiums of the United States and in the Military School at West Point, and affords the only accurate means of estimating the strength of all the principal groups of muscles of the body.

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268.	(Exp. 56a.) Fatigue Curve of A. E. L. after a General Douche at 112° for Fifteen Minutes	1128
269.	(Exp. 56b.) Normal Fatigue Curve of a Young Man, the Subject of the Experiment	1128
270.	(Exp. 56b.) Fatigue Curve Obtained from Same Sub- ject after Immersion Bath at 104° for Twenty Min- utes	1127
271.	(Exp. 58.) Normal Fatigue Curve of A. E. L.	1128
272.	(Exp. 58.) Fatigue Curve of A. E. L. after General Hori- zontal Jet at 55° for Fifteen Seconds	1128
273.	(Exp. 58.) Fatigue Curve of A. E. L. after Neutral Im- mersion Bath	1128
274.	(Exp. 59.) Normal Fatigue Curve of W. P. L.	1129
275.	(Exp. 59.) Ergogram of W. P. L. after Shallow Bath at 65° for Two Minutes	1129
276.	(Exp. 60.) Normal Fatigue Curve of W. P. L.	1129
277.	(Exp. 60.) Fatigue Curve of W. P. L. after Wet-sheet Pack at 60° for Twenty Minutes	1129