

THE VITAMINS

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649231485

The vitamins by H. C. Sherman & S. L. Smith

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

H. C. SHERMAN & S. L. SMITH

THE VITAMINS

M/Phy
S

THE VITAMINS

BY

H. C. SHERMAN

Professor of Food Chemistry, Columbia University

AND

S. L. SMITH

Specialist in Biological and Food Chemistry
United States Department of Agriculture



American Chemical Society
Monograph Series

170837.

27.4.28

BOOK DEPARTMENT

The CHEMICAL CATALOG COMPANY, Inc.

ONE MADISON AVENUE, NEW YORK, U. S. A.

1922

GENERAL INTRODUCTION

American Chemical Society Series of Scientific and Technologic Monographs

By arrangement with the Interallied Conference of Pure and Applied Chemistry, which met in London and Brussels in July, 1919, the American Chemical Society was to undertake the production and publication of Scientific and Technologic Monographs on chemical subjects. At the same time it was agreed that the National Research Council, in cooperation with the American Chemical Society and the American Physical Society, should undertake the production and publication of Critical Tables of Chemical and Physical Constants. The American Chemical Society and the National Research Council mutually agreed to care for these two fields of chemical development. The American Chemical Society named as Trustees, to make the necessary arrangements for the publication of the monographs, Charles L. Parsons, Secretary of the American Chemical Society, Washington, D. C.; John E. Teeple, Treasurer of the American Chemical Society, New York City; and Professor Gellert Allerman of Swarthmore College. The Trustees have arranged for the publication of the American Chemical Society series of (a) Scientific and (b) Technologic Monographs by the Chemical Catalog Company of New York City.

The Council, acting through the Committee on National Policy of the American Chemical Society, appointed the editors, named at the close of this introduction, to have charge of securing authors, and of considering critically the manuscripts prepared. The editors of each series will endeavor to select topics which are of current interest and authors who are recognized as authorities in their respective fields. The list of monographs thus far secured appears in the publisher's own announcement elsewhere in this volume.

The development of knowledge in all branches of science, and

especially in chemistry, has been so rapid during the last fifty years and the fields covered by this development have been so varied that it is difficult for any individual to keep in touch with the progress in branches of science outside his own specialty. In spite of the facilities for the examination of the literature given by Chemical Abstracts and such compendia as Beilstein's *Handbuch der Organischen Chemie*, Richter's *Lexikon*, Ostwald's *Lehrbuch der Allgemeinen Chemie*, Abegg's and Gmelin-Kraut's *Handbuch der Anorganischen Chemie* and the English and French Dictionaries of Chemistry, it often takes a great deal of time to coordinate the knowledge available upon a single topic. Consequently when men who have spent years in the study of important subjects are willing to coordinate their knowledge and present it in concise, readable form, they perform a service of the highest value to their fellow chemists.

It was with a clear recognition of the usefulness of reviews of this character that a Committee of the American Chemical Society recommended the publication of the two series of monographs under the auspices of the Society.

Two rather distinct purposes are to be served by these monographs. The first purpose, whose fulfilment will probably render to chemists in general the most important service, is to present the knowledge available upon the chosen topic in a readable form, intelligible to those whose activities may be along a wholly different line. Many chemists fail to realize how closely their investigations may be connected with other work which on the surface appears far afield from their own. These monographs will enable such men to form closer contact with the work of chemists in other lines of research. The second purpose is to promote research in the branch of science covered by the monograph, by furnishing a well digested survey of the progress already made in that field and by pointing out directions in which investigation needs to be extended. To facilitate the attainment of this purpose, it is intended to include extended references to the literature, which will enable anyone interested to follow up the subject in more detail. If the literature is so voluminous that a complete bibliography is impracticable, a critical selection will be made of those papers which are most important.

The publication of these books marks a distinct departure in the policy of the American Chemical Society inasmuch as it is a

serious attempt to found an American chemical literature without primary regard to commercial considerations. The success of the venture will depend in large part upon the measure of cooperation which can be secured in the preparation of books dealing adequately with topics of general interest; it is earnestly hoped therefore that every member of the various organizations in the chemical and allied industries will recognize the importance of the enterprise and take sufficient interest to justify it.

AMERICAN CHEMICAL SOCIETY

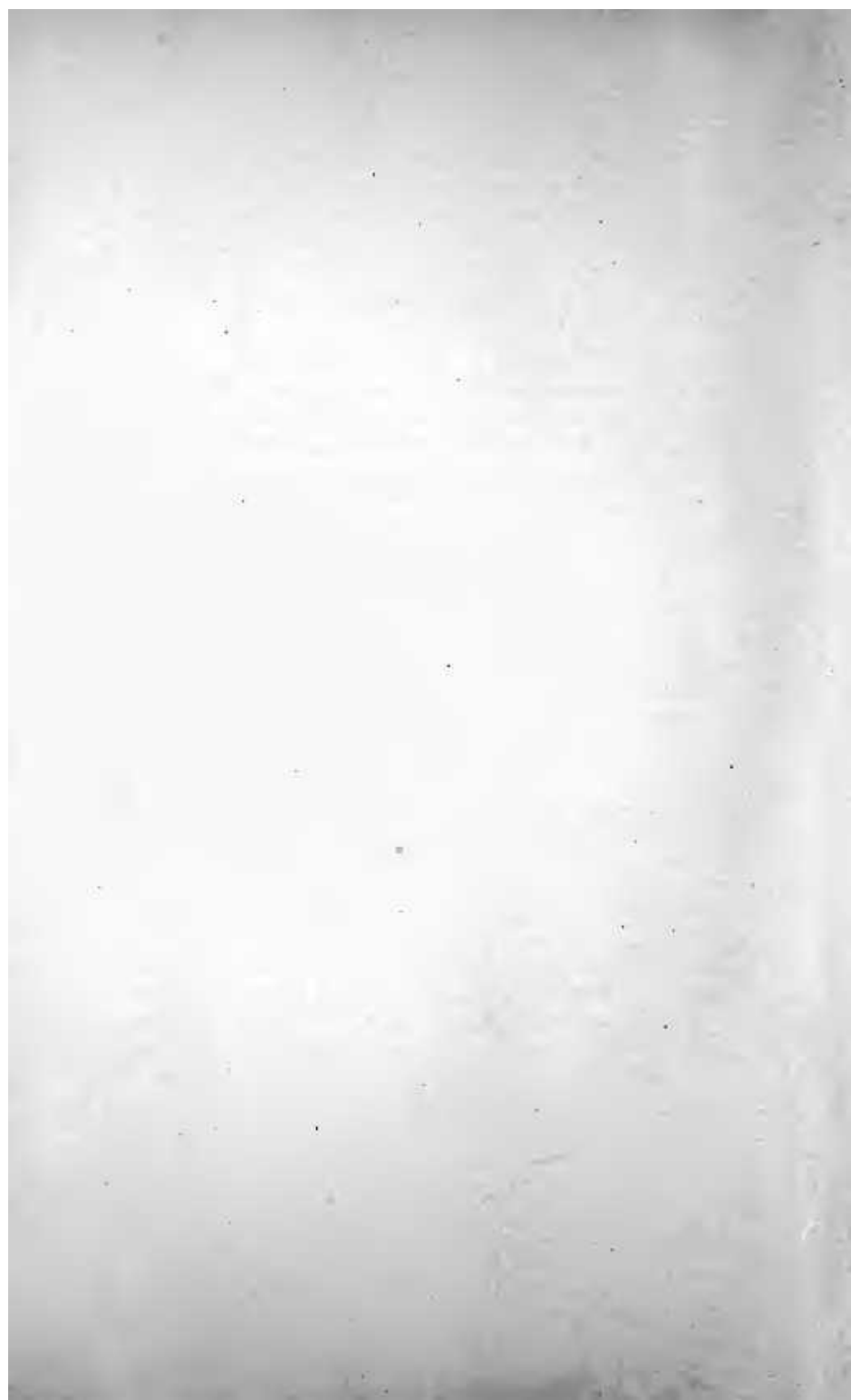
BOARD OF EDITORS

Scientific Series:—

WILLIAM A. NOYES, *Editor*,
GILBERT N. LEWIS,
LAFAYETTE B. MENDEL,
ARTHUR A. NOYES,
JULIUS STIEGLITZ.

Technologic Series:—

JOHN JOHNSTON, *Editor*,
C. C. DERICK,
WILLIAM HOSKINS,
F. A. LADBURY,
ARTHUR D. LITTLE,
C. L. REESE,
C. P. TOWNSEND.



PREFACE

Although the chemical nature of vitamins is still unknown much of both scientific and practical importance has been learned regarding them, and the present work is designed to summarize this knowledge in as judicial a manner as possible. To those who "don't believe in vitamins because we have never seen one" or who hold that we know nothing about them chemically because no structural formula can yet be assigned, we would commend the view of Hopkins that it is easier to sympathize with the farmer who will believe in vitamins only when their price per hundredweight can be quoted in the market than with the scientific man who refrains from an endeavor to appraise their importance until they have been separated in pure condition. "To be logical he should then avert his eyes from such agents as toxins and antitoxins, not to speak of enzymes; powerful realities all of them, which though of unknown constitution by no means elude objective and quantitative study." It is hoped that the present work may do something to stimulate such quantitative research as distinguished from the merely qualitative tests which have now largely served their purpose, and at the same time may serve to present the chief facts now known in such a way as to show their true significance and avoid exaggerated impressions. To this end the non-technical reader may perhaps be advised to read the last chapter first.

The greater part of the text was written near the middle of the year 1921 but on a few points we have been able to bring our summary down to about the end of that year, thus covering the work of the decade since the term was introduced and the conception of the vitamins began to be current. A carefully selected alphabetical bibliography of about one thousand titles is included. Names and dates are so used in the text that the reader may readily locate original places of publication by turning to the bibliography, the need of foot-note references being thus avoided. It is hoped that this bibliography will suffice to put

the reader in touch with practically all of the more significant literature of the vitamins to the end of 1921. The writers will be glad to be notified of any serious omissions in case a second edition should be called for.

January 3, 1922.