

**REPORT ON THE REVISION OF THE U. S.
PHARMACOPOEIA PRELIMINARY TO THE
CONVENTION OF 1880, BEING A ROUGH
DRAFT OF THE GENERAL PRINCIPLES, TITLES
AND WORKING FORMULAE PROPOSED
FOR THE NEXT PHARMACOPOEIA**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649691517

Report on the Revision of the U. S. Pharmacopoeia Preliminary to the Convention of 1880,
Being a Rough Draft of the General Principles, Titles and Working Formulae Proposed for the
Next Pharmacopoeia by Charles Rice

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Cover @ 2017

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CHARLES RICE

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DRAFT OF THE GENERAL PRINCIPLES, TITLES
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AMERICAN PHARMACEUTICAL ASSOCIATION.
COMMITTEE ON THE REVISION OF THE UNITED STATES PHARMACOPOEIA.

REPORT
ON THE
REVISION OF THE U. S. PHARMACOPOEIA

PRELIMINARY TO THE CONVENTION OF 1880.

BEING A BROUGH DRAFT OF THE

General Principles, Titles, and Working Formulae
proposed for the next Pharmacopoeia.

PREPARED AND COMPILED BY

CHARLES RICE,

CHAIRMAN OF THE COMMITTEE.

NEW YORK

1880.

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PREFACE.

For several years past, the Revision of the United States Pharmacopœia has engaged the attention of the medical and pharmaceutical professions in this country; and the various questions relating to the general methods to be followed in its reconstruction, or to the proper authority to take charge of its publication have been discussed at length. The credit of having most thoroughly awakened interest in pharmacopœial matters undoubtedly belongs to Dr. E. R. Squibb, who advocated an entirely new departure, namely, the placing the revision under the charge and authority of the American Medical Association,* which is the representative body of the medical profession in the United States. This body having, however, subsequently refused to accept the charge, and it appearing that much valuable time would be lost in arguing the more abstract or theoretical side of the question, the American Pharmaceutical Association, at its meeting held at Toronto (Sept., 1877), determined to pave the way for the solution of the problem, if possible, practically, and adopted the following preamble and resolution offered by Dr. Frederick Hoffmann:

Whereas, The plan and method adopted for the elaboration of the first edition of the United States Pharmacopœia, and subsequently continued for its decennial revision, in consequence of the improved means of intercourse, and, moreover, by the altered conditions, resources; and requirements of the arts, sciences, and the practice of medicine and pharmacy, require a reform; and

Whereas, The Pharmacopœial Convention, as yet the only authorized body for revising and publishing the Pharmacopœia, is so constituted that it meets for this purpose only once in ten years, and has not acted in time,

* The principal essays, *pro* and *contra*, bearing on this subject will be found in a pamphlet entitled "The American Medical Association and the United States Pharmacopœia. A Reprint of the Pamphlets of Dr. H. C. Wood, Mr. Alf. B. Taylor, The Philadelphia County Medical Society, and the National College of Pharmacy, with a Rejoinder addressed to the Professions of Medicine and Pharmacy of the United States. By EDWARD R. SQUIBB, M.D., of Brooklyn." Brooklyn, 1877, 8vo, pp. 157.

It was a matter of great regret that the services of Dr. Squibb could not be secured in an official capacity for the Committee. His reluctance to serve, we are authorized to say, was not due to diminished interest in the Pharmacopœia, nor to unwillingness to work for it in the way to be tried by this Committee; on the contrary, it was owing to his conviction that it would not be consistent for him to take a prominent part in a movement led by the American Pharmaceutical Association, after it had been received with such marked disfavor when proposed to the American Medical Association.

notwithstanding the recognized necessity of an earlier revision, to make the Pharmacopœia conform with the progress and present status of Materia Medica and the practice of pharmacy; and

Whereas, The American Medical Association, after a full presentation of this subject and of a matured plan for action, at its recent meeting at Chicago, has failed to take any action in reference to the revision of the Pharmacopœia, by indefinitely postponing the proposed project; therefore,

Resolved, That the President of this Association appoint a committee of five to take into consideration the advisability and feasibility, on the part of the American Pharmaceutical Association, as the national representative organization of the profession of pharmacy, to prepare a complete Pharmacopœia, which may be submitted to the criticisms of the medical and pharmaceutical professions, and may be proposed to the final Committee of Revision, and that that committee be instructed to report early at the next session, so as to leave time for definite action at this meeting.

A Committee on Revision was subsequently appointed, the members of which were selected with a view of having the different sections of the United States properly represented. Shortly after the meeting, the undersigned drew up a preliminary plan for reconstructing the Pharmacopœia, which was sent out, as a circular, for the purpose of eliciting criticism and suggestions. On December 28th, 1877, a meeting of the Committee was held in New York, at which the published plan was fully discussed, and after various amendments, finally adopted, so that there is reason to believe that the profession will, at least in all important points, approve the General Principles according to which the revision was to be undertaken. The undersigned, then, after consultation with the members, allotted the various portions of the work to those who either expressed a preference for some particular section, or who otherwise seemed, from their known specialties, most competent to take charge of a special department. During the first year, considerable progress was made, as may be seen by referring to the report of the undersigned, presented at the meeting of the Association at Atlanta (Sept., 1878), at which time he felt compelled to resign his office as Chairman of the Committee. Several months afterwards, however, when it was ascertained that the newly elected chairman was constrained, by reason of impaired eye-sight, to decline the office, the undersigned, though very reluctantly, reaccepted the position, in order that the undertaking might at least not fail for want of a proper organization.

Previous to this period, it had already become apparent that the original plan of the Committee, namely, to construct a complete Pharmacopœia, could not be carried out for various reasons. One of these is, that no single member of the Committee could afford to devote sufficient time to the work. Another reason is, that many determinations of values, such as specific gravity, weight of end-product, or of solid residues, and analytical data should only be made *after* the proposed processes have been finally adopted, and, if

possible, should only be made by one and the same expert. To do this at present, before the formulæ have been properly scrutinized, amended, and finally adopted, would only be a waste of time. In the course of the past year, the undersigned received a sufficient number of contributions to warrant him in beginning their compilation for the Association. To do this properly, it was necessary to rewrite a large portion of the contributions received, in order to bring uniformity into the work, since each contributor naturally had employed different methods of treatment, as well as different expressions and language. As a specimen of the work, a Report, containing a considerable number of working formulæ, was presented at the last meeting of the Association at Indianapolis (Sept., 1876), accompanied by a general report on the progress and prospects of the work. More material was in the hands of the undersigned, which was, however, at that time, not in a condition to be presented, being only in the form of skeleton notes and figures. The undersigned, in his Report, expressly stated that the work was not of a nature to entitle it to be printed in the *Proceedings*, as it was rather of an ephemeral than of a permanent character; and he had no hope or expectation that another feasible plan for having it published, would be discovered. After the presentation of the Report, however, it seemed to be the wish of the majority of members present that the work should be printed, and the following Resolution to this effect was introduced by Dr. George Ross:

Resolved, That the Report of the Committee on the Revision of the U. S. Pharmacopœia be printed in pamphlet form, provided the expense of printing be borne by the Colleges and Societies represented in the Association.

While there appeared to be some difference of opinion as to the wisdom or propriety of publishing such a work in advance of the Decennial Convention, the Resolution was nevertheless adopted, and a special Committee on Publication appointed. This Committee, soon after the meeting, issued a circular addressed to pharmaceutical colleges and associations throughout the country, and also to single members or prominent firms specially interested in pharmaceutical matters, requesting their aid toward accomplishing the object in view.

This appeal was so successful that the necessary funds, estimated as being required for the work, were in the hands of the Chairman (Dr. Ross) within four weeks after issuing the circular. In the mean time, the undersigned devoted every spare moment to the completion of the manuscript—a task which was frequently very onerous, for the reason that comparisons between several proposed formulæ, or actual experiments had often to be made at the last moment, in order to present such formulæ in a complete manner.

The present Report has been compiled by the undersigned, partly from the contributions or memoranda received from members of the Committee, and other gentlemen who have given their aid, and partly from his own notes, either based on personal experience, or on the recorded statements of others.

If he had been able to devote his time exclusively to this work, it would, no doubt, be more satisfactory to him. But, being compelled to carry on the work at such moments only as could be spared from business, with frequent interruptions, and besides, wishing to preserve as much as possible the spirit and intent of contributors, he will not be surprised if many incongruities and defects, or even errors in calculations and processes, should be discovered, ascribable to these causes. To go over the whole manuscript a second time, with the necessary care, was impossible, and it was only during the reading of the proofs that obvious errors or misstatements could be corrected. In this latter task he has been very materially assisted by DR. E. R. SQUIEB, DR. FRED. HOFFMANN, MR. PAUL BALLUFF, PROF. P. W. BEDFORD, and MR. B. F. MCINTYRE, of New York, all of whom scrutinized the proofs with a view to eliminating palpable errors. Of course, their individual criticisms on matters admitting of argument are reserved until the completion of the work.

It should be distinctly understood that the present Report does not represent the united or unanimous views of the members of the Committee; and that the word *Committee*, wherever it occurs in the Report proper, is to be taken in a restricted sense, meaning one, two, or more members, who, *on behalf of the Committee*, provisionally worked up a certain subject. In consequence of this, the Report should be viewed as a "printed manuscript," to be circulated among the members of the Committee for scrutiny and correction; and at the same time to be submitted to the medical and pharmaceutical professions to invite further contributions of knowledge, and criticism which may aid in attaining the object more completely.

The undersigned at first intended to indicate at the foot of each formula the name or names of the members on whose authority the formulæ were given or altered. But it was soon found that to do this properly, by crediting each member with his particular share, would take up much valuable room, and therefore the names were mostly omitted. In a number of instances, however, the names of the authorities were mentioned for obvious reasons.

As soon as it was ascertained that sufficient funds for publication would be at the disposal of the Committee, it was necessary to decide how much should be printed and in what manner. Among the papers received during 1878 (April), there was a valuable contribution by Mr. Charles Mohr, in which the native vegetable crude drugs were described according to the plan adopted by the Committee, and about August, 1879, Dr. Fred. Hoffmann handed in the first part of his Report on Chemicals, in which the latter were likewise treated according to the general principles agreed upon. Both of these papers were available for publication with the present Report, but on mature consideration it was thought best to omit them, for several reasons. In the first place, both reports, though very carefully prepared and valuable in themselves, covered only a portion of their respective fields, and there was not time to make up the deficiency.* Another reason was, that their insertion

* Mr. Mohr's report will partly appear in the forthcoming vol. 37 of the Proceedings.

would increase the proposed publication beyond the estimated number of pages, and consequently beyond the available funds in the hands of the Committee. But the principal reason was, that it appeared to the Publication Committee of greater advantage, *for the present*, to publish the pharmaceutical part of the work, containing the reconstructed working formulae, as it is more important to assure the correctness of these than the more theoretical, correct description of vegetable drugs and of chemicals. It is, of course, quite important that the Pharmacopœia should give a complete and correct definition and description of *Gelsemium* or of *Sodii Bromidum*, for instance; but so far as this preliminary Report is concerned, it is of greater importance to have a correct working formula for, say, *Liquor Ferri Chloridi*. Accordingly, the undersigned concluded to confine full-length descriptions to the pharmaceutical part (including only a few chemicals), while the other articles at present official or proposed to be introduced into the new pharmacopœia were only inserted by title in their proper alphabetical order, so as to present at least a complete frame-work around which the remainder of the text may hereafter be constructed. While engaged on this work, the undersigned received from his friend, Prof. F. A. Flückiger, of Strassburg, a copy of the Report on the Revision of the German Pharmacopœia, prepared by a committee of the German Pharmaceutical Association, which was found to contain so many excellent and useful hints and remarks, that he thought it would be of service to the profession to incorporate the more important portions adapted to our own pharmacopœia into the present Report.

Since the names of the contributors have in most cases been left out in the text, for the reasons stated above, the undersigned takes pleasure to acknowledge, in this place, the valuable contributions received from the following gentlemen:

Dr. E. R. Squibb, of Brooklyn, N. Y.: Studies on Fluid Extracts, and on Repercolation (see *Proceed. Am. Ph. Assn.*, 26, 708; also separately in pamphlet form).

Prof. Alb. B. Prescott, M.D., of Ann Arbor, Mich.: Papers on the Assay of Opium and its Preparations; and on the Assay of Cinchona and Tests of the Cinchona Alkaloids.

Prof. W. T. Wenzell, of San Francisco, assisted by *Mr. M. Tschirner*, and partly by *Mr. J. S. Calvert*: Table of Solubilities of the official Chemicals in Water.*

California College of Pharmacy, through *Mr. J. G. Steele*: Commentary on old and new preparations, with recommendations for the next U. S. Ph.

Prof. C. Lewis Diehl: Study of Fluid Extracts (see *Proceedings*, vols. 25 and 26).

Mr. Charles Mohr: Description and Definition of Native Crude Vegetable Drugs, worked out in accordance with the proposed plan.

Dr. Frederick Hoffmann: Description of a portion of the Chemicals, accompanied with tests of identity and purity.

* This table is not quite completed, and will be published hereafter.

Prof. Emlen Painter : Transcalculation into parts by weight of a large number of formulæ.

Prof. P. W. Bedford : A similar contribution.

Mr. S. A. D. Sheppard : A voluminous collection of notes, comments, and criticisms on pharmacopœial processes and preparations, compiled from the pharmaceutical literature since the appearance of the last U. S. Pharm. Also, in conjunction with other gentlemen of Boston, Reconstruction of the Working Formulæ for Syrups.

Mr. Louis Dohme : Transcalculation into parts by weight of the Iron Preparations and of the Spirits.

Prof. Joseph P. Remington : Study and Reconstruction of the Tinctures.

Mr. J. U. Lloyd : Improved working formulæ for various pharmaceutical preparations.

Mr. W. H. Crawford : General comments on various articles in the Pharmacopœia, and formulæ for officinal Wines.

Minor contributions have been received from Messrs. B. F. McIntyre, Geo. W. Kennedy, Wm. Saunders, Edw. Baker, G. Zellhoefer, and others, for all of which the undersigned desires to express his thanks.

The present Report will no doubt be used by some as a basis on which to build up something better and more perfect for presentation to the National Convention, or to the Final Committee on Revision. If it shall be found to be of sufficient value to serve as such basis, and to be used as a starting-point for further improvement—with the errors contained therein eliminated—the labor of the Committee and of the undersigned will not have been entirely in vain.

NEW YORK, Feb. 10th, 1880.

CHARLES RICE.