EDITORIAL NOTES

THE PHARMACOPŒIA WILL ESTABLISH AN OFFICIAL METHOD FOR PREPARING PERCENTAGE SOLUTIONS.

The following is taken from the report of Chairman E. F. Cook, presented at the annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, held in Madison.

The correct method for preparing a percentage solution for medicinal use has long been in dispute. Some authorities have always insisted upon using the "weight–weight" (w/w) method as the only correct procedure. Others have argued with equal insistence that the "weight–volume" (w/v) method was the only practical plan. The new British Pharmacopœia has led the way to make the practice in drug stores uniform by prescribing an official method as follows:

PERCENTAGE SOLUTIONS.

"In defining standards, the expression 'per cent' is used according to circumstances with one of three different meanings. In order that the meaning to be attached to the expression in each instance may be clear, the following notation, which has long been in use by pharmacists, has been adopted.

"*Per cent w/w, percentage, weight in weight,* expresses the number of Gm. of active substance in 100 Gm. of product.

"*Per cent w/v, percentage, weight in volume,* expresses the number of Gm. of active substance in 100 millilitres of product.

"*Per cent v/v, percentage, volume in volume,* expresses the number of millilitres of active substance in 100 millilitres of product.

"The strengths of solutions of solids in liquids are expressed as percentage weight in volume, of liquids in liquids as percentage volume in volume, and of gases in liquids as percentage weight in weight.

"In the dispensing of prescriptions, when the expression 'per cent' is used without qualification, it is to be interpreted to mean, for solutions of solids in liquids, per cent weight in volume, for solutions of liquids in liquids, per cent volume in volume, for solutions of gases in liquids, per cent weight in weight. Thus, a '10 per cent' or a '1 in 10' solution is prepared by dissolving 10 Gm. of a solid, or 10 millilitres of a liquid, in sufficient of the solvent to make 100 millilitres. A solution of the same strength may be prepared on the Imperial System, and on the Apothecaries' System, by dissolving 44 grains (more precisely 43.847 grains) of a solid, or 48 minims of a liquid, in sufficient of the solvent to make 1 fluidounce (480 minims) of solution."

Our own Committee of Revision, after discussion, voted at the recent Conference to introduce a similar paragraph in the new Pharmacopœia.

THE REVISION OF THE FOOD AND DRUGS ACT IN ITS RELATION TO THE U. S. P.

No one can now predict the final form in which the rewritten Federal Food and Drugs Act may be passed by Congress or when that may occur, but it is of the utmost importance to the work of our Committee and to the future of the United States Pharmacopœia that it should retain essentially the status proposed in the first draft offered to Congress by the Secretary of Agriculture, and introduced into both the Senate and the House.

The added recognition of Pharmacopœial standards, covering as it does the U. S. P. and N. F. definitions, descriptions, formulas, tests, assays and the packaging and labeling specifications, places greatly increased responsibility upon the decisions of the U. S. P. Revision Committee.

The "variation clause" is retained to meet the legitimate need for modifications in official products, such as the demand for a "Half-Strength or Double-Strength Ointment of Mercuric Oxide," "Half-Strength Tincture of Iodine," etc., and to allow the sale of products of technical grade and also to permit the sale of established preparations differing in flavor, color or strength from the official. However, the new requirement will compel a labeling which clearly indicates wherein the unofficial product differs in strength, quality and purity from the specifications of the Pharmacopœia or National Formulary. This has not been a part of the law heretofore.

The feature which authorizes the secretary to prescribe additional tests or assay methods to determine whether or not the official standards are being complied with, should it be found necessary, is entirely new.

This, however, greatly strengthens the position of the Pharmacopœia, for no vital objective or responsibility of our Committee

is disturbed and the enforcement of the necessary standards, which our Committee have established, is helped. The first duty of the Committee of Revision is to decide the scope of the new Pharmacopœia, that it may represent the therapeutic agents of the day believed to be worthy of recognition. This duty remains exclusively in our hands.

ACCURACY OF VITAMIN A TEST IN RELATION TO DURATION OF TEST.

By a statistical examination of the results of 201 vitamin A tests, the accuracy of such tests for a period of dosing of one to five weeks was determined. The experiments were carried out by the usual method of feeding rats on a diet deficient in vitamin A until they ceased to grow and then giving, in addition, doses of the substance under examination for a period of five weeks. The results were calculated from the responses of the rats alive at the end of each week of the test; 1129 buck and 1282 doe were alive at the end of the first week and 960 buck and 1110 doe at the end of the fifth week. The curves relating increase in weight to dose of vitamin A given were found to be approximately logarithmic for each week as would be expected from those previously published for five weeks' growth.

The standard deviation of the increase in weight of these rats was found to increase with the length of the test. This result was contrary to that of Norris and Church (*J. Nut.*, 5 (1932), 495). The probable error of an estimation was determined for groups of ten buck or ten doe for each week. The error was found to decrease rapidly up to the third week, and then very slowly. The values for the probable error of a result at three weeks were 21 per cent above or 18 per cent below the true value for buck and 30 per cent above or 23 per cent below the true value for doe. The corresponding figures for a five weeks' test were 17 per cent above or 15 per cent below the true value for buck and 24 per cent above or 19 per cent below the true value for doe. The author therefore maintains that the increase in accuracy would not in general justify the extra expenditure of time and labor.—K. H. Coward, The Pharmacological Laboratories of the Pharmaceutical Society (*Biochem. J.*, 27 (1933), 445).

OBITUARY.

HENRY G. GREENISH.

Prof. Henry G. Greenish, *honorary member* of the AMERICAN PHARMACEUTICAL ASSOCIATION since 1913, died at his home Willesden Green, London, England, on August 2nd, aged 78 years. He was the son of the late Thomas Greenish, president of the British Pharmaceutical Society in 1880–1882 and of the British Pharmaceutical Conference in 1886; the son, Henry G., was apprenticed to his father, he won a Bell scholarship in 1875 and in 1876–1877 earned five silver medals in addition to that of the Society. After passing the Major examination he was for a time demonstrator in the School of the British Pharmaceutical Society. He continued his studies at the Universities of Dorpat and Vienna and returning to his *Alma Mater*, was appointed a lecturer (1890) and professor in 1893. The office of Dean of the School and Professor of Pharmaceutics was established a few years later; and on the recognition of the School by the University of London he became its Professor of Pharmaceutics.

Professor Greenish took an active part in the revisions of the British Pharmacopœia for 1898 and 1914, and was joint editor of the latter. He was a member of the Commission set up in connection with the preparation of the British Pharmacopœia, 1932.

In 1911, with Sir William S. Glyn-Jones he toured Continental countries in order to gain information on the working of health insurance systems. During the World War he was frequently called upon by the Government with problems submitted by various departments.

He was author of "A Text Book of Pharmacognosy," now in its sixth edition; "The Microscopical Examination of Foods and Drugs;" and (in collaboration with the late M. Collin) of an "Anatomical Atlas of Vegetable Powders;" his work in connection with the British Pharmaceutical Codex extended over many years and from 1891 to 1926 the "Year Book of Pharmacy" bears witness to his varied research. Dr. Greenish was president of the British Pharmaceutical Conference in 1922, the year of his silver wedding. In 1917 he received the Hanbury Medal and in 1920 the University of Paris conferred on him the honorary Doctor's degree.