

Papers Presented to Local Branches

THE BRITISH PHARMACOPŒIA, 1914.*

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The appearance of a new edition of the British Pharmacopœia immediately before the publication of the revision of our own Pharmacopœia of the United States lends a peculiar degree of interest to the book and would appear to warrant a study of the characteristic features of this new Pharmacopœia. The history and origin of the British and of the United States Pharmacopœias are also interesting largely because of the fact that our own Pharmacopœia is the direct outgrowth of one of the books that were later combined to form the now official standard for the British Empire.

The British Pharmacopœia in the form in which it now appears, is a comparatively recent publication, the compilation being authorized by the Medical Practice Act of 1858 and its publication directed by the Medical Council Act of 1862 to supersede the previously published pharmacopœias of London, Edinburgh and Dublin, only two of which, the pharmacopœias of London and of Edinburgh had an authoritative legal standing.

The earliest of the British Pharmacopœias was that of the College of Physicians of London, the first edition of which was published in 1618; subsequent editions being printed in 1639, 1650, 1677, 1721, 1746, 1788, 1809, 1815, 1824, and 1836.

The first translation of the London Pharmacopœia by Culpeper was published in 1653, and is particularly interesting because of the liberal abuse of the catalogue of remedies.

The first edition of the Edinburgh Pharmacopœia was published in 1699, and this was followed by new editions in 1722, 1736, 1744, 1756, 1774, 1783, 1792, 1803, 1804, 1806, 1813, 1817, 1839, 1841.

An English translation of the Edinburgh Pharmacopœia was published by Lewis in 1748. This book reappeared in several editions and was followed by translations by Webster, Duncan, Duncan, Jr., and finally James. The translations by Duncan and Duncan, Jr., were widely used in this country and subsequently formed the basis of the American Dispensatory by Cox and of the American New Dispensatory by Thatcher. The Edinburgh Pharmacopœia itself was used as the basis for the Pharmacopœia of the Massachusetts Medical Society, published in 1808, and for the first edition of the Pharmacopœia of the United States, pub-

* Presented at the meeting of the City of Washington Branch of the American Pharmaceutical Association, January 27, 1914.

lished in 1820. The reason, no doubt, why the Edinburgh Pharmacopœia rather than the London Pharmacopœia was used in this country, is to be found in the fact that during the Colonial period and for years later many American students were sent to study medicine at the University of Edinburgh, which at that time was considered to be the leading medical school in Great Britain, if not in Europe.

The Dublin Pharmacopœia was published as a specimen Pharmacopœia in 1794, and a second edition of this specimen Pharmacopœia appeared in 1805. The first Dublin Pharmacopœia printed for circulation was published in 1807, succeeding editions being published in 1826 and 1850. The latter or third edition was apparently the first of the several British Pharmacopœias to be published in English.

The first edition of the present British Pharmacopœia was published in 1864. At the request of the Pharmacopœia Committee of the Medical Council the Pharmaceutical Society of Great Britain had delegated Mr. Peter Squire to coöperate in the preparation of the British Pharmacopœia and he served as the pharmaceutical editor of this book. As a direct outcome of his work in this connection we have his still popular "Companion to the British Pharmacopœia" which acquired a very wide circulation not only in England but throughout British possessions, and even in the United States, no less than eighteen editions of the book having appeared to date.

The first edition of the British Pharmacopœia was liberally criticized, and the opinions expressed, particularly in pharmaceutical journals, regarding it were not favorable. While it was admitted to have good qualities, serious defects of omission and commission were pointed out and a new edition of the book, edited by Mr. Robert Warington of Apothecaries' Hall, and Professor Theophilus Redwood, representing the Pharmaceutical Society, was published in 1867. An Addendum to this second edition was circulated in 1874, and the third edition of the Pharmacopœia appeared eleven years later in 1885, a further Addendum being published in 1890. The fourth edition of the Pharmacopœia was issued in 1898, and an Indian and Colonial Addendum in 1900. This Addendum, at the request of the Government of India, was published as a Government of India edition in 1901.

The present issue of 1914 is the fifth British Pharmacopœia and, in general appearance, it has much in common with the volume immediately preceding it. It contains a total of 633 pages, sixty-seven more than are contained in the fourth edition, and officializes a total of 816 drugs and preparations as against 826 described in the body of the fourth edition of the same book. The monographs or descriptions and formulas occupy 462 pages, whereas in the issue of 1898 they required only 389 pages.

The additions in the 1914 Pharmacopœia include forty-three, the deletions 168, as against eighty additions and 189 deletions recorded in the Pharmacopœia published in 1898.

The number, nature and kind of additions and deletions represented by a new edition of a pharmacopœia are usually considered to be an indication of the progress or lack of progress reflected by the book as a whole. From this point of view, the present British Pharmacopœia appears to have been rather liberally criticized, not alone in the Medical and Pharmaceutical Journals of different por-

tions of the British Empire, but also in some of the lay Journals, particularly the daily papers of London and some of the larger cities of England. It would be altogether too ambitious a task to discuss the additions and deletions in detail or to reflect even casually the criticisms that have already appeared. For our purpose it will suffice to point out that by far the greater number of the changes were involved by the inclusion in the body of the book of all but forty-five of the titles formerly in the Indian and Colonial Addendum. This rearrangement of the material also accounts for the fact that despite the very great difference in the number of official additions and deletions the number of monographs in the body of the book is only reduced by ten.

Among the additions not as yet included in our own Pharmacopœia of the United States we find:—*Acidum Picricum*, *Adrenalinum*, *Barbitonum*, *Benzaminæ Lactas*, *Cantharidinum*, *Diamorphinæ Hydrochloridum*, *Glucosum*, *Phenolphthaleinum*, *Theobrominæ et Sodii Salicylas*.

Among the titles not recognized in our own Pharmacopœia we find:—*Methylsulphonalum* for *sulphonethylmethanum*, or *trional*, and *Hexamina*, a newly-coined title, in place of our own *Hexamethylenamine*.

Among the deletions we find:—*Cambogia*, *Cantharis*, *Cerii Oxalas*, *Cimicifugæ Rhizoma*, *Cocæ Folia*, *Crocus*, *Elaterinum*, *Ficus*, *Granati Cortex*, *Lupulinum*, *Lupulus*, *Moschus*, *Mylabris*, *Oleum Pimentæ*, *Piper Nigrum*, *Prunum*, *Sarsa Radix*, *Sassafras Radix*, *Sinapis*, *Spiritus Aetheris Compositus*, *Spiritus Vini Gallici*, *Veratrina*, *Zinci Sulphocarbolas*.

Among the deleted galenical preparations there are:—Three Decoctions, eight Infusions, seven Plasters, eight Fluidextracts, seven Extracts, sixteen Concentrated Solutions, six Solutions, two Mixtures, three Pills, sixteen Tinctures, and eight Ointments.

Among the innovations included by the additions and deletions we have the substitution of *Cantharidin* in place of the formerly official *Cantharides* and *Mylabris*. This active principle is directed to be used in the making of *Plaster of Cantharidin*, *Tincture of Cantharidin*, and *Ointment of Cantharidin*, in place of the formerly official corresponding preparations of *Cantharides*.

The deletions noted include *Figs*, *Prunes*, and *Black Pepper*, despite the fact that formulæ for *Confection of Senna* and for *Confection of Pepper* are retained. In these formulæ the corresponding substances are directed to be "of commerce," thus recognizing the principle that the nature and character of widely-used articles is sufficiently well regulated by competition not to require further definition or description.

One of the more evident differences between the fifth edition and the one immediately preceding it is the omission of all reference to the Imperial system of weights and measures in the formulas of the Pharmacopœia, quantities being given in the metric system only, with the exception of the doses where, as a transitional provision the Imperial system has been retained. Despite the fact that the editors of the Pharmacopœia announced that the relation between the Imperial and the metric doses of a given preparation is that of approximate equivalents only, the preference in the statement of round numbers appears to have been shown uni-

firmly to the Imperial system rather than to the metric system as illustrated by the following examples:—

	DOSE	
	Metric	Imperial
Aloin	2 to 12 centigrams	½ to 2 grains
Purified Alum.....	3 to 6 decigrams	5 to 10 grains
Amyl Nitrite.....	12 to 30 centimils	2 to 5 minims
Apomorphine Hydrochloride	(By hypodermic injection)	
	3 to 6 milligrams,	1/20 to 1/10 grain;
	(By mouth)	
	6 to 16 milligrams	1/10 to 1/4 grain
Atropine	0.3 to 0.6 milligram	1/200 to 1/100 grain
Copaiba	2 to 4 mils	½ to 1 fluid drachm
Cresol	2 to 18 centimils	1 to 3 minims
Prepared Chalk.....	1 to 4 grammes	15 to 60 grains

In stating doses for liquid preparations the metric quantities are given in mils, a term recognized by the Board of Trade (May, 1908,) as a short official designation for the millilitre. Americans will be interested to learn that this term was originated by the late Professor Oscar Oldberg in his *Unofficial Pharmacopœia*, published in 1881, and it is a rather handsome compliment to a prominent American pharmacist to have the renewed suggestion to use the word mil in place of the very cumbersome "cc." or cubic centimetre, reintroduced into this country from abroad.

In connection with the doses, the editors of the *British Pharmacopœia* explain that while the doses given in the *Pharmacopœia* are not authoritatively enjoined upon prescribers, it is the duty of the pharmacist or dispenser whenever an unusually large dose is prescribed to satisfy himself that the prescriber's intention has been correctly interpreted. This paragraph would appear to put the onus of dosage on the dispenser and differs from the usage evidenced by continental pharmacopœias which include maximum doses of potent medicines: quantities to which the prescriber is specifically limited and required to note any excess so as to indicate that it is done with full knowledge of facts and not through inadvertence.

The list of articles and preparations the composition of which has been altered, includes fifty-one titles, of which seven preparations were changed to correspond approximately to those recommended in the International Agreement of September, 1906. The strength of forty-one articles and preparations has been altered materially, and of these ten were changed to correspond approximately with the requirements recommended in the International Agreement referred to above. A table is also appended recording the deviations from the recommendations of the International Agreement, the nature of the recommendations and the reason for the deviation.

The list of articles and preparations the names of which have been altered, include a total of thirty-five titles largely of botanical drugs and preparations. No material change has been made in chemical nomenclature and the familiar Latin titles have generally been retained unaltered. The preface also calls attention to

the fact that the English titles are not as a rule literal translations of the Latin titles and that only the more important synonyms have been inserted.

A table of abbreviated Latin names of official drugs and preparations of the British Pharmacopœia is included in an Appendix and has elicited considerable comment, one reviewer expressing the hope that the abbreviations included "will never be put forward as legally binding. They do not appear to be so at present, but the list should not be unnoticed; many of the abbreviations are horrible."

From the preface to the Pharmacopœia it would appear that the same or similar abbreviations are to be included in the Pharmacopœia of the United States, and that the list was included in the British Pharmacopœia in the interest of international uniformity, with the suggestion that they "will probably be found useful to dispensers and others, especially those in foreign countries who have to interpret the abbreviations according to the prescriptions of British practitioners."

The monographs and descriptions of chemical substances are interesting because of the frequent occurrence of a purity rubric and of a modification of that portion of the paragraphs in former issues which purported to be descriptive of the sources or modes of manufacture of official chemical substances. These descriptions have been made more concise, but the physical and chemical characteristics and tests by means of which the substances may be identified and their freedom from impurities determined have been amplified and increased in number.

The quantitative tests for the basic and chemical radicles of ordinary salts instead of being repeated in the text as in the previous edition, or in our own Pharmacopœia of the United States, have been brought together connectedly in an Appendix, the text simply stating the names of the radicles or other combinations which should be present or absent. Infrequently applied tests are as heretofore included in the monographs themselves.

A quantitative limit test for arsenic and a table showing the limits of arsenic in parts per million, also a quantitative limit test for lead with a corresponding table showing the limit of lead in parts per million are given in the Appendices which also include methods for the general determination of acid value, saponification value and iodine value of fixed oils, fats and other products, the determination of esters and of alcohols in volatile oils, the determination of boiling points, melting points, refractive index, optical rotation and specific gravity of official substances, also methods for making extractive preparations, dyes, lozenges, alternative preparations sanctioned for use in tropical countries and a definition of the permissible limit of error in alkaloidal assays.

In connection with the descriptions of botanical drugs the histological characteristics of parts of plants officially recognized are fully described, and in many instances the histological characteristics of the powder are given, particularly when by chemical testing alone the identity or the purity of the article could not be certainly determined.

The number of assay processes for botanical drugs and for galenical preparations and volatile oils has been increased considerably, the present edition requiring the assay of thirteen crude drugs, seven of which are for alkaloids, the assay of twenty-five galenicals and of eleven volatile oils. In many instances the official processes for the assay of drugs and preparations have been revised in accord with

the recommendations of the Reference Committee on Pharmacy of the Pharmaceutical Society.

In connection with the volatile oils and fixed oils, additional tests for identity and purity have been introduced, the characters and tests ordinarily including in addition to requirements for color, odor, and specific gravity, also optical rotation, and, as noted above in many instances, an assay method for the determination of the more important constituents.

Unusual methods of administration have not been specifically recognized and apart from a note by the editors in the preface to the Pharmacopœia that "when official drugs are so directed by the prescriber, the drugs of the Pharmacopœia may be dispensed in non-official forms such as capsules, cachets, granules, compressed discs or tablets, and the like; but the drugs themselves, in all such cases must respond to the official characters and tests."

An index of forty-seven pages makes the book and its contents readily available for reference purposes, and altogether the opinion expressed by the editors of the Pharmacopœia that the Pharmacopœia Committee of the Medical Council, "has now been able to produce a British Pharmacopœia suitable for the whole Empire," appears to be reasonably justified.

MODERN DRUG STORE MERCHANDIZING.

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At the January meeting of the Philadelphia Branch of the A. Ph. A., Mr. Louis K. Liggett of Boston, presented an interesting and illuminating analysis of the business side of certain types of modern drug stores.

The following outline briefly reviews his treatment of the subject:

That the proper grasp of the details of business may be insured, it should be divided into departments, each being separately studied and managed and each having separate financial records. Soda water, cigars, candies, prescriptions and general merchandise are classifications which suggest themselves.

The Soda Fountain properly conducted and with careful management should and can be made to yield 50 *per cent.* gross profits. In figuring the costs do not fail to include every expense including breakage, icing, napkins, glasses, etc., etc. Here the quality of the service is of the utmost importance. Selling price is not the main consideration. People are willing to pay more for quality and right treatment.

The basis of a successful soda business is, first, ice-cream which is just right; secondly, cold liquids—10 to 15 degrees above freezing always; with these assured you have the beginning of a good business.

Cigars.—The best grade of cigars may be ruined by lack of proper care. An open door to the cigar case and a radiator behind will make "English Cigars" of the finest kind in one week, "water-logged, seasick and dried out." The cigar case should be carefully watched and be gone over at least once every day, to see