THE APPROACHING REVISION OF THE BRITISH PHARMACOPŒIA.

V.

PHARMACEUTICAL DEFECTS IN THE PRESENT BRITISH PHARMACOPŒIA FROM THE MEDICAL POINT OF VIEW.

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THE announcement that the General Medical Council have commenced operations for a revision of the national *Pharmacopœia* has been received with no small amount of interest by the medical profession. This interest has not diminished since the publication of the debate upon the presentation of the report of the *Pharmacopœia* Committee to the Council, which doubtless has had the effect of directing the attention of the profession more closely than usual to the methods by which the revision is proposed to be carried out. The General Medical Council, and especially the able and untiring Chairman of the *Pharmacopœia* Committee, have earned the gratitude of every medical practitioner at home and in the Colonies for their labours in former revisions.

It is, therefore, in no spirit of fault-finding or censoriousness that it is proposed to examine the methods by which the revision in former years has been carried out. We must look at the inherent difficulties of the work with the view of finding out if possible how they may be overcome or minimised, and, if possible, how a higher standard of excellence may be reached in the next issue of the *Pharmacopœia*. The work must always be regarded from two very distinct standpoints—namely, from the point of view of the pharmaceutical chemist and that of the practitioner of medicine. The *Pharmacopœia* is designed as a guide or aid to the pharmacist who dispenses as well as to the physician who prescribes the remedies for disease. The General Medical Council have always broadly acknowledged this, and, in addition to engaging a number of pharmaceutical experts to assist in the work, they return thanks in the preface to the last edition "for assistance received from several of the medical authorities, scientific bodies, medical practitioners, and from pharmacists."

The circular sent out to the medical bodies in December last states that the *Pharmacopœia* Committee appointed by the Council "are desirous of enlisting the co-operation of the medical authorities and such other bodies and persons as may be able to furnish useful information, with the view of rendering the work as complete and accurate as possible."

By approaching the new revision in this broad spirit, the Parliament of Medicine has shown itself worthy of the trust reposed upon it. At the same time it is obvious that the work cannot be expected to be a success unless the help of medical experts be engaged, and associated in the revision with the distinguished pharmaceutical authorities at present employed in the undertaking. From the nature of the work to be done it is impossible for the editing of the medical side of the *Pharmacopœia* to be satisfactorily accomplished by a committee of the General Medical Council. Supposing that the medical bodies, universities, and teaching organisations take the matter up earnestly, it might be contended that their valuable assistance could be made to take the place of a medical editor or editors. A little reflection will, however, show that medical editorship would probably be only the more necessary under such circumstances. One or more physicians who have devoted themselves to the study of pharmacology and therapeutics would be required to weigh the mass of recommendations and opinions out of which the new *Pharmacopœia* is to emerge. There can be little doubt that experts could be found in London who would undertake the labour, and whose duty it would be to collaborate with

the pharmaceutical editor as the work of revision advanced. It is the writer's opinion that only in this way can a *Pharmacopœia* be brought out which will index the medical mind of the nation or be creditable to British medicine.

When one examines the present (1885) volume with its additions of 1890, it becomes apparent that many blemishes and imperfections would have been impossible had a medical expert been made responsible for the medical portion of the work. Thus the entire dosage would have been revised and brought into line with the therapeutics of the day; but as the question of the posology of the *British Pharmacopœia* is to be treated in a subsequent article, nothing further need be said upon the subject in the present paper.

A few examples of pharmaceutical defects in the present volume may, however, be looked at from the medical standpoint with advantage. Opening the *British Pharmacopœia* at the second page one cannot fail to be struck with the question why such an unstable and non-uniform preparation as acetum is still permitted to encumber its valuable space, while we have the acid aceticum dilutum of practically the same strength. As little can be said for the acetum cantharidis.

Passing over such practically worthless encumbrances as the nitrate and phosphate of ammonium, sulphate of beberine, bael fruit, canella and cassia pulp, we come to the group of cataplasmata, the retention of which is a serious blemish upon our national *Pharmacopœia*. The formula of almost every member of the group may be safely pronounced to be at variance with present therapeutic knowledge and experience. One of the most obvious blunders is the directions for the preparation of the cataplasm of hemlock, namely, the instruction to evaporate the hemlock juice to half its volume. The result of this is to completely destroy the property of the drug, unless indeed the evaporation be carried out at a low temperature, which is not stated. Moreover, as it is impossible for the chemist to make and supply these poultices, it is difficult to see why they have been retained. It is probable that few physicians, when ordering a mustard poultice, intend that the official mustard cataplasm, which consists of an equal quantity of linseed meal and mustard, should be applied, nor is the official mustard paper recognised by physicians as a success.

There was a time when something might have been said for the retention of the sulphates of cinchonine and cinchonidine, but from a therapeutic point of view the two pages devoted to their characters and tests are at the present day worse than lost space.

The confections may be regarded as belonging to a past time, and as veterans they lag superfluous on the stage; those of scammony, hips, opium, and, perhaps, turpentine are seldom used. Much may be said for the retention of confections of sulphur, pepper, and senna, but when one considers that the latter preparation contains nine substances, four of which (that is, figs, tamarinds, cassia pulp, and prunes) are solely retained for its preparation, it is obvious that the confection of senna is retained at serious cost, especially as the pharmaceutical process directs the rejection "of the seeds and other hard parts" upon which the laxative properties of its ingredients to a considerable extent depend. If the directions for evaporating the confection at the end of the process be followed the active principle of the senna is very considerably destroyed, and this official representative of polypharmacy is rendered almost useless, as is also the case with the syrup of senna.

The decoctions and plasters afford numerous examples of inert preparations, but perhaps the small group of enemata afford the best examples of official preparations framed in opposition to the recognised principles of physiology and therapeutics. Thus, the enema of aloes is made to measure 10 ounces, and that of sulphate of magnesium 16 ounces, quantities which obviously cannot be retained for any time in the body. It is clear that these five preparations should be excluded, as the physician can give directions when he wishes to use enemata of asafetida and opium, the only members of the group of any utility.

The space of the present article does not permit of a review of the numerous extracts, many of which are seldom employed, and some of which—notably conium and dandelion—are inert when the official formula is followed. It has been

demonstrated that the hemlock extract may safely be swallowed in enormous doses, its active principle having been destroyed by the high temperature of the evaporation. Perhaps no more obvious example of the defect of a pharmaceutical preparation could be mentioned than that of glycerine of borax. Formerly this valuable preparation, which was faintly opalescent, consisted of 1 ounce of borax dissolved in 4 ounces of glycerine, but in the last revision 2 ounces of water were added, the result being a thin bright liquid, which does not adhere to the diseased mucous membrane, but immediately flows off and is practically valueless as a therapeutic agent. By using the borax in crystals a clear, bright, and adhesive liquid would have resulted. The utility of the preparation was sacrificed to elegance in pharmacy, whilst a little more pharmaceutical knowledge would have redeemed it.

The entire group of infusions should be revised, and most, if not all, must be omitted, from a medical point of view. Their strength and actions vary so much and they are so liable to spontaneous changes, even when combined in mixture form with other drugs, that the days of this form of Galenical preparation are already numbered, and, as Professor Leech has shown, they have practically disappeared from the other *Pharmacopœias* of the world.

Another group of preparations which shows serious defects is the mucilages, though some of these could be easily remedied. Thus mucilage of acacia, which soon becomes acid when kept in ordinary vessels, might retain all its properties fresh if the *Pharmacopœia* supplied the directions for enclosing it in small sealed phials completely filled and excluded from the air and light. It is a common occurrence to see mischief caused in the treatment of stomach affections by this acid mucilage, especially as it is so often used to suspend bismuth. For similar reasons the hypodermic injections are actually dangerous; ergot decomposes, and when injected abscesses result, a state of matters which could be easily avoided; indeed much can be said for excluding all preparations liable to speedy spontaneous decomposition. The injection of morphine requires serious attention. It is quite too powerful; every minim contains one-tenth of a grain, and no matter how careful the physician may be, he is liable to inject one or two minims more than he intends. Owing to its strength the writer regards it as a positively dangerous preparation, and it is probable that death has resulted from its use in the hands of young physicians not accustomed to the daily use of the hypodermic syringe. The introduction of discs or tabloids containing alkaloids in soluble form should replace these unstable injections.

The practically inert aromatic mixture of iron known as Heberden's ink and the vinum ferri are still left as blemishes; they are valuable chalybeates no doubt, but only in the absence of the host of reliable preparations of iron. The same remarks will apply to the pill of iodide of iron.

The saccharated carbonate of iron may be instanced as an example of reform urgently required in the official pill masses; "this carbonate (if reckoned as anhydrous) forms about one-third of the preparation," but commercial specimens, prepared by the official process, generally are found to yield about 20 per cent. of real ferrous carbonate. The dose of the preparation is given as 30 grains, which would mean, when mixed with the official excipient, about one dozen fair-sized pills.

Extractum rhamni frangulæ (never used as an excipient) has its dose fixed at 15 to 60 grs. This means that when made into firm pills of fair size the number required to be administered will amount to at least from 4 or 5 to 15 or 18. The dose of many other extracts introduced into the *Pharmacopœia* for administration as pills is so large and bulky as to render them useless; this becomes even more evident when one remembers that the prolonged evaporation deteriorates their active principles.

Of the 51 liquors, 18 syrups, 18 spirits, and 75 tinctures, much might be said from a purely pharmaceutical point of view, which is outside the scope of the present article. That only a very small percentage of these 162 preparations are in use amongst practitioners cannot be denied, and the reason is obvious—their strengths and doses are so various that it is found impossible to remember either, and after the ordeal of the examination in *Materia Medica* is got over the young physician breaks acquaintance with the great majority of his

official friends, and too often drifts into the daily use of semi-proprietary or ready-made pharmaceutical compounds, or else settles down to the routine use of a very limited selection of *British Pharmacopœia* drugs and their preparations.

The lozenges are a very doubtful addition to the *Pharmacopœia*, and the recent perfection of the manufacture of tabloids should suggest the advisability of excluding these remnants of the old-world pharmacy altogether. If administered for their local action upon the mucous membrane of the mouth and fauces the sugar mucilage and gum seriously interfere with the action of some of them. If this group of preparations is to be retained a plea must be made for a lozenge containing carbolic acid, such a lozenge would be worth more than the present list of thirteen.

There are no fewer than forty-five unguents in the present *Pharmacopœia*, and upon these a separate article might be written with advantage; from the medical standpoint the chief objection is the lamentable want of anything approaching uniformity of strength. Thus the list of forty-five unguents will be found to contain preparations of no fewer than twenty-eight different strengths. In objecting to the want of uniformity in the strength of tinctures and Galenical preparations to be swallowed it always can be answered that the dose is an item to be considered, but in dealing with ointments, many of which are inert, there is certainly less to be said against uniformity of strength. It is rather surprising to learn that out of a total of forty-five of these preparations, there are twenty-eight of which no two are of the same strength. The result of such an arrangement is that the physician learns practically to ignore the official list, and, when he requires an unguent, writes a recipe for a preparation of his own, as it is almost an impossibility to remember the strength of even a fair percentage of these preparations. An even more serious objection to the group is the unfortunate selection of a basis consisting of a mixture of hard and soft paraffin in several of them. If anything can be said for such a basis from a pharmaceutical point of view, experience proves that it is objectionable from a medical point of view, and in some ointments it destroys their usefulness. As a rule, the official directions for the making of ointments are very defective; in no place is it made clear that the powdered substance is to be rubbed laboriously and patiently with a very small quantity of the basis before the remainder is added; there is no class of preparation requiring so much care and skill, and such curt directions as "mix thoroughly" are insufficient.

The vapours of the *British Pharmacopœia* are seldom employed and so out of touch with modern therapeutic notions that, like the cataplasmata, they are so certain to be excluded in the approaching revision, that nothing need be said of them. The wines should probably also be excluded, for if sherry or other wine be found in any particular case to be a better menstruum than weak spirit, it may be used, and the resulting preparation called by its proper name—a tincture. The vinum ferri should certainly be excluded; the quantity of iron contained in it is most variable, but never enough to be of any therapeutic value when given in the official dose of 1 to 4 drachms.

The above-mentioned objections are given not as a complete list of the pharmaceutical defects in our national *Pharmacopœia*, but as a sample of what must be remedied if the new work is to become one of which we shall not be ashamed. They go to prove conclusively that the valuable suggestion of Dr. Lauder Brunton should be acted upon—that "skilled labour and much experimental work, necessitating the expenditure of a good deal of time and money," should be provided by the General Medical Council.

If this is obviously necessary for the judicious weeding-out of the grave defects and worthless drugs and preparations in the present *British Pharmacopœia*, how much more obviously necessary is it for the introduction of new remedies and new Galenical preparations—a subject not within the scope of the present article.

We trust that the compilers of the work will not be

The first by whom the new are tried, but the profession in all English speaking countries will doubtless also hope that they will not

Be yet the last to lay the old aside.

An analysis of the inconsistencies and lack of uniformity

evident all through the 1885 issue proves that these arise from the patchwork nature of the original issue in 1867, when the compilers had to reconcile the various interests represented in the old Edinburgh, London, and Dublin *Pharmacopæias*. This Herculean task was accomplished with great ability, but the time has now come when the work must be undertaken in a totally different spirit, and the revisers must go to the root of the matter and produce a volume which will be an index of the advanced pharmacy and therapeutics of the day. The great and only danger appears to be that of haste; it will take at least a few years before this result can be accomplished.

SUPERANNUATION OF POOR-LAW MEDICAL OFFICERS.

A BILL to provide for superannuation allowances to Poor-law officers and servants, and for contributions towards such allowances by such officers and servants, has been introduced into the House of Commons by Mr. Walter Long. The Bill is backed by Sir Algernon Borthwick and Sir F. FitzWygram, who sit on the Conservative benches, and Mr. F. C. Frye and Captain Norton, who are of the opposite political opinion.

A memorandum prefixed to the Bill points out that at present Poor-law officers have an equitable statutory claim to a superannuation allowance after not less than ten years' service upon becoming incapacitated from the performance of their duties by reason of permanent mental or bodily infirmity, or of old age. The granting of such allowance is dependent upon the discretion of Boards of Guardians, and in many cases grants have been withheld on various pretexts. The Bill proposes that in return for a percentage contribution from his salary and emoluments every Poor-law officer shall be entitled to a superannuation allowance under the circumstances mentioned above. Power is given to Boards of Guardians to require an officer who has attained the age of 65 to retire when they are of opinion that it would be expedient in the interests of the public service that he should do so. The percentage of contribution has been graduated with respect to existing officers from 2 per cent. of their total salary and emoluments in the case of officers with less than five years' service, to $2\frac{1}{2}$ per cent. in the case of officers with five to fifteen years' service, and to 3 per cent. in the case of officers with more than fifteen years' service. This percentage has been arrived at from the experience of other superannuation schemes, and will practically be found sufficient to meet future claims for superannuation. Provision is made with respect to existing officers at the passing of the Act, giving them the option of contributing to secure "certainty," but retaining their present equitable rights under the existing Acts should they decline to do so. With all officers appointed after the passing of the Act the contribution would be compulsory.

The scale of superannuation proposed for the officers who have served for ten years and less than eleven years is $\frac{1}{8}$ of the average amount of his salary during previous years with the addition of $\frac{1}{16}$ of such amount for every additional completed year of service until the completion of forty years, when a maximum allowance of $\frac{1}{4}$ must be granted. The services of an officer for this purpose would be aggregated, whether the service had been continuous or not, and whether his whole time had been devoted to the service or not.

Clause 5 provides that the guardians of a union in computing the amount of superannuation allowance to any officer or servant may, in consideration of peculiar professional qualifications, or of special circumstances, and with the consent of the Local Government Board, add a number of years not exceeding ten to the number of years which the officer or servant has actually served in the aggregate. An officer who has not held his office long enough to be entitled to a superannuation allowance, and who loses his office by reason of a reduction of staff, alteration of areas or boundaries, by reason of bodily injury not occasioned by his own fault, or of any other causes other than his own misconduct or voluntary resignation, would be entitled to receive, if the Bill becomes law, out of any common fund of the union, a sum equal to the amount of all

his contributions; and the guardians may, with the sanction of the Local Government Board, grant a gratuity not exceeding the amount of his salary and emoluments during the year preceding the vacation of his office. There is a further provision that when such loss of office or employment occurs in a case in which the death, resignation, or insanity of one of the holders of a joint appointment vacates the office of the other, the officer or servant whose office is so vacated shall be entitled to receive during life out of the common fund of the union a superannuation allowance, according to the scale laid down in this Act, if such officer or servant has attained the age of 50 years, and has served for not less than twenty years. The "officer" includes every officer (whether paid by salary or fees) in the service of an authority empowered by this Act to grant superannuation allowances, whether his whole time is devoted to the duties of the office or not; and for the purposes of this Act superintendent registrars and registrars of births and deaths are deemed to be in the service of the guardians of the union in which their respective registration districts are situated. The "emoluments" include all fees, poundage, and other payments made to any officer or servant as such for his own use; also the money value of any apartments, rations, and other allowances in kind appertaining to the office or employment of any officer or servant, according to such scale as the Local Government Board shall prescribe.

It must not be overlooked, however, that the superannuation fund is taken out of the salary of the officer—at least, to the extent of the deductions—so that it is to be presumed that, in the case of officers resigning after ten years' service, they will be entitled to claim their proportion of superannuation, though this is not made quite clear in the Bill. Then in the case of the death of an officer after completing more than ten years of service, as he was compelled on entering the service to allow this 2 per cent. deduction from his salary for a purpose which has not benefited him at all, it would seem equitable to allow his executors to claim a return of a certain proportion of these deductions; but the Bill is entirely silent as to what, if any, benefit is to be derived by an officer from his forced contributions to this superannuation fund, who, it may be, after having worked for nearly forty years in the public service, dies in harness.

Although not specially mentioned, it would seem that this Bill is intended to apply to medical officers by necessary implication (Sec. 20); it also repeals the Medical Officers Superannuation Act, 1870.

THE COUNTY COUNCIL AND THE LONDON CORONERS.

THE scheme recently formulated by the Public Central Department of the County Council, and laid before the London coroners, involves sweeping changes in the office of coroner and the constitution of his court within the metropolis. It proposes the following innovations:

1. That the metropolitan area should be mapped out into districts, in each of which should be created a central coroner's court, with clerk and officials analogous to those of the stipendiary magistrate's court, and that the coroner should hold the same position in the new court as the latter in the police court, and receive the same salary (£1,200 per annum), and that the existing franchise districts should be absorbed into the newly created ones.

2. That special officers, to be called medical investigators, should be appointed to each court, whose duty would be to inquire into cases of uncertified deaths, to examine the body and in such cases where necessary to make a *post-mortem* examination, and to report the result of their inquiry to the coroner sitting in court, who would then decide as to the necessity of holding a formal inquest.

3. The requirement that the jury and coroner must view the body is to be done away with, as also the magisterial investigation of cases committed for trial by the coroner, who is to have full power to do this, and to bind over all necessary witnesses.

The proposals of the County Council do not seem to meet with the approval of the London coroners, and Dr. Danford Thomas in their answer pointed out that a recent resolution