

Section on Pharmacopœias and Formularies

Papers Presented at the Sixtieth Annual Convention

PRACTICAL SUGGESTIONS ON PHARMACOPOEIAL REVISION.

R. H. NEEDHAM, PH. C.

A Pharmacopœia is primarily a book of standards. The establishment of standards must be left to those men who are thoroughly familiar with pharmaceutical and physiological chemistry and drug assaying. We trust that these men will adopt only those short and concise processes which are adaptable to ordinary conditions, such as will be found in most of the laboratories of Colleges of Pharmacy.

In considering the subject of revision the most important question would appear to be, "What shall be revised; or rather, what shall be retained, dropped or added?" For one, I am more interested in what drugs shall be dropped, than I am in what drugs shall be retained or added. Past experience has demonstrated that there will be plenty of drugs retained and a host will knock for admittance, enough in all to make a book twice as large as the last revision.

I will try to confine my remarks to crude organic drugs and salts, taking up the different ones *sine seriatim*, commenting as I proceed. I might enumerate them much more rapidly, but simply listing them would be tiresome and uninteresting, besides I would fail utterly in creating the impression I wish to make.

I firmly believe the following drugs I am about to enumerate should be dropped from the Pharmacopœia and I will set forth my reasons with each drug as it is taken up. Having spent a number of years in a pharmacy and medical school, and being connected with a hospital, and keeping in close touch with clinical work and the drug trade, I feel that at least some of my criticisms are well founded and deserve attention and consideration.

CHONDRUS is almost unheard of outside of the *Materia Medica*s and the National Formulary, where a single preparation is mentioned.

ULMUS is never sold as a mucilage, the whole bark cannot be adulterated and the powdered is rarely.

HUMULUS is valuable only as a source of Lupulim, the hops being sold in packages loose pressed or packed, coming under the Pure Food label.

STAPHISAGRIA is good for Pediculi, but evidently Kerosene is used forty times to its once.

PAREIRA is noted for the interest that it arouses in the study of vegetable histology; its concentric zones and wood wedges placing it in a class peculiar to itself.

GUAIAACUM is a resinous product that every one knows deteriorates with age and exposure, losing its efficiency as a tonic and alterative. Those doing work in

urinalysis know that tincture made from the above is worthless. Physicians obtain better results with fresh tincture in treatment of rheumatism. I plead that guaiac wood as chips or raspings take its place, giving the druggist something with which to make a fresh tincture, so useful in making blood tests.

LIMONIS SUCCUS should be left to the soda fountain men, who are using lime juice and other vegetable acids in place of it.

RHUS GLABRA is never used nor prescribed except in prescriptions' examples. Its use as a remedial agent amounts to nothing.

MEZEREUM has long enjoyed the reputation of an anti-syphilitic, but should give way to more effective remedies.

SUMBUL seems to be used only in patents and proprietaries, and as such only is it prescribed.

MANNA should be dropped with the only preparation into which it enters, i. e. Compound Infusion of Senna, another heirloom preparation.

APOCYNUM may be a good diuretic, but it is nowhere near digitalis, when it comes to prescriptions and the treatment of diseases requiring a diuretic and heart stimulant.

PEPO, poor old pumpkin seed, belongs with the other melon seeds, and should be listed in seed catalogues. Grandmas will always continue to use it, but the space it takes up in the U. S. P. can be put to better use.

ELATERINUM is useful to make students study, as it enters into the only official triturate. No one doubts its purgative effect, but very few physicians or druggists have ever seen the triturate or elaterinum.

TARAXACUM, like Sarsaparilla, will be hard to throw out, as it has a reputation established by generations of prescribers and users. All the same, it should go, for there are many other better bitter tonics. The pharmaceutical manufacturers may desire that the dandelion be retained for their sole benefit, but I am in favor of letting it go.

LACTUCARIUM. Let us open the door and throw this drug out. Its sole use as far as I can find has been to add work in materia medica and to theoretically make tincture and syrup of lactucarium.

OPII DEODORATA. This preparation of opium has no right to a place in the Pharmacopœia, as there is not a single preparation into which it enters, besides we have deodorized tincture of opium made by quite a different process. Once in a great while a physician prescribes Pulvis Opii Deodorata, though the deodorized tincture is more frequently used in prescriptions. There is no necessity for retaining granulated opium, as anyone knows, who has ever made laudanum, that the granular form of the powder does not aid in the least bit and that the powdered opium works just as well.

PYRETHRUM. There is little or no demand for the root or its preparations, which is not used internally.

MOSCHUS. Principally used by perfumers; neither it nor the tincture is ever prescribed any more, bromides and other sedatives having completely taken its place. Besides, pure Tonquin Musk is too high in price to make it a profitable prescription drug, were it used. I call this drug an heirloom also.

Under the salts, there are a number of small therapeutic value and their sale is little or nothing. I will confine my remarks to those salts which are of slight interest to either physician or druggist.

SODII ACETAS is taking up space in the Pharmacopœia needlessly, as Potassium Actetate is almost universally prescribed.

SODII BISULPHIS is so similar in use and action to sodium sulphite that we have no need of this salt in the Pharmacopœia. Many drug stores never stock this drug, as there is no demand for it.

SODII CHLORAS, like its very similar preparation, Potassium Chlorate, is used entirely in mouth washes and gargles and for making chlorine water. It is never prescribed.

SODII PHENOLSULPHONAS. For a number of years we have been observing the clinical results of all the phenolsulphonates, with the conclusion that they are very unreliable. So convinced are the practitioners of this failure on the part of the salts as to their value as intestinal antiseptics that they have ceased to be prescribed, the formaldehyde compounds having taken their place.

AMMONII IODIDUM. A very deliquescent salt, almost impossible to keep in a crystalline form, used once in a great while in place of potassium iodide and in liniments. This salt is always a loss to the druggist and if wanted in liniments the physician can prescribe tincture of iodine and ammonia water.

MANAGNI SULPHAS as a tonic has completely fallen into disuse, other tonics having taken its place. Let us drop it.

LITHII CARBONAS. A salt with a reputation never established. Said to be a uric acid and calculi solvent, but probably insoluble in the stomach. Its affinity for acid phosphates is questionable.

CERII OXALAS. Another heirloom from previous Pharmacopœias, which has passed, as the late Grover Cleveland would say, "into innocuous desuetude." I suggest that it remain that way and not be retained in the Pharmacopœia. As a sedative for nausea it is no longer used.

BETANAPHTHOL. A coal tar derivative of little antiseptic value in medicine. Once in a while it is prescribed, but not enough to warrant its retention in the U. S. P. I would also suggest dropping the spirit of nitroglycerin which as a spirit is completely surpassed in strength and efficiency when used as nitroglycerin straight in granules—not tablets.

I further suggest the following additions:

SANTALUM ALBUM. It is just as important that this drug, which is the source of the Oil of Santal, should be made official as that castor and croton beans retain their respective places. (Castor and croton "beans" are not official.—Editor.)

ILLICIUM. Why should oil made from star anise be excluded while it contains the same constituents as the oil made from anise seed? (Star anise oil is recognized by the U. S. P.—Editor.)

ABRUS. Jequirity is used only in eye practice and is a valuable remedy. The tincture or infusion should be made official, so that druggists may make up a preparation of this drug if they desire.

COCILLANA. It has been demonstrated beyond a doubt that this is a valuable expectorant, superior to ipecac, as it is not so apt to produce nausea.

MYRCIA. Let us restore Bay Leaves to the U. S. P., and Bay Rum also. It compares much more favorably with some other drugs that are retained which have no official preparations.

ICHTHYOL. Another preparation being used on a very large scale in making ointments. Very popular with physicians for swellings, or chills, etc.

ACETYL-SALICYLIC ACID. Safer than the more depressant coal tar derivatives, is efficient as an antipyretic and diaphoretic and, last but not least, is one of the best sellers in the drug stores today.

I have made these criticisms with a view of bringing to our attention some of the needless and, in most cases, worthless drugs which have long taken up space in the U. S. P. I have looked at them from a therapeutic standpoint, and a commercial one, too. I believe that the Pharmacopœia should be a book of standards of drugs which are used and sold continually in our drug stores. In keeping many of the criticised drugs in the U. S. P. we not only lessen the prestige of that work, but we bring criticism upon ourselves and compel students of pharmacy and materia medica to study and learn drugs many of which they will never see, sell nor prescribe. We want a U. S. P. of the highest standards possible to attain, at the same time one of practical utility for intensely practical men. To some this paper will savor too much of commercialism, especially to our more scientific men, but I assert that in order to benefit the greatest number in pharmacy and medicine, every drug and process of assay or test must be as simple, as practical, as it can possibly be made. To this end let the revision committee work their way, eliminating all dross and retaining only those drugs of worth and merit.

DISCUSSION.

Prof. J. P. Remington said he supposed, to begin with, that Mr. Needham meant here to reflect his own personal views, of course. He did not know how many communications he had received in which the writers expressed diametrically opposite views. Of course, the paper would come to the Committee of Revision, and he would send it out to each member of the committee personally, as he always did in such cases. But to take sodium nitrate, for instance: That was not put in the Pharmacopœia because of its use at the prescription desk; it was put in because of its use in the process of making spirit of nitrous ether. And so with a great many other things. When the Pharmacopœia defined an article, it was necessary to give the ingredients which went to make up that article; also, how would the pharmacist know when it was pure? This was particularly puzzling to the doctors, who had great difficulty in understanding why an article which was not prescribed as such should be retained in the Pharmacopœia. One doctor, for illustration, at one time, had made quite merry over the introduction of figs and prunes in the Pharmacopœia, and expressed the opinion that it would be all right to have them in a grocery-store, but he could not understand their place in the Pharmacopœia. Of course the answer was that they were used in combination with senna. This combination had now been dropped, and prunes and figs had gone out of the Pharmacopœia.

Prof. Philip Asher said that Mr. Needham was of course voicing his own views, but he should understand that in a radius of a few hundred miles there was often an entirely different disposition on the part of physicians as to the articles they prescribed. Mr. Needham, for instance, was perhaps not more than five hundred miles from New Orleans, yet a large number of preparations the writer had mentioned the speaker had made extensively. Tincture

of musk was one of these. He had made tincture of musk in pint quantities. At one time he had no call for musk; then, for a short space of time, he had a good deal of demand for it. Lead iodide he had made in five and ten-pound batches many times. While the views of Mr. Needham showed the true status of certain localities, it was not true as to others.

Prof. H. V. Army instanced the case of tamarinds, largely used in New Orleans, but concerning which nothing was known in Cleveland. Only one boy in his class of fifty there had tamarinds in his drug-store. On the other hand, an article that might be very popular in Cleveland or Philadelphia would never be heard of in New Orleans. He believed that all realized that Mr. Needham's contribution was a valuable one, but this proposition of wide and varied distribution of articles prescribed was an important point to bear in mind.

Prof. A. H. Clark pointed out that in the city of Chicago articles were called for every day on the North Side that were never called for six miles away on Michigan avenue, and he knew that the drug-stores on the South Side had calls for certain articles that were never heard of in any other section of the city. As another illustration of how this worked, for a number of years he had been engaged in a small town in Illinois of some three hundred inhabitants. He moved away to a larger place, of some 40,000 inhabitants, only about fifteen miles distant, and he had to "learn the whole drug business all over again." So just a difference of a few miles made the widest difference in the character of drugs prescribed in many cases.

Prof. C. E. Mollet said this discussion had demonstrated the difficulties that the Revision Committee must confront at each revision period. He was opposed to dropping any subject or any substance from the Pharmacopœia so long as it was found on the markets of the United States. Without some standard as long as these drugs were sold it was utterly impossible for the Pure Drug authorities to compel them to come up to standard.

Speaking again to the subject, Prof. Remington said if the members would look on the title page of the Pharmacopœia they would read these words: "The Pharmacopœia of the United States of America." While it was true that there were plenty of things in the Pharmacopœia that the doctors in Chicago never thought of using, it was equally true that the doctors in Texas or somewhere else did use them largely, and the doctor there was just as much entitled to a standard for his preparations as the doctor in Chicago, or Philadelphia, or New York, who had never heard of these articles. This was a criticism that they heard from the physicians continually, and it was hard to get them to understand. One physician might get along on a hundred things in the Pharmacopœia, and be just as good as another who used a hundred others. But one doctor's hundred things would be totally different from some other doctor's hundred things, and the Pharmacopœia has to be big enough to suit both of them.

INFLUENCE OF ADRENINE AND CHOLINE ON THE DETERMINATION OF SEX.

From experiments on guinea pigs it is found that when animals are put under the influence of adrenine, previous to conception, the number of males, in subsequent litters is greatly above the normal. As a rule 60 per cent. of the litter are males; when the mother has been subjected to adrenine injection, however, the proportion rises to 84.3 per cent. Choline has the opposite effect. Guinea pigs under its influence give birth to more females, to the extent of 90 per cent. It has previously been claimed by the author that in the human species adrenine may be detected in the urine of the pregnant subject if the child is male. Three recent cases have confirmed this. Adrenine was found in the urine of two cases, and the predicted birth of a male was verified in each case. In the other instance no adrenine was found. The diagnosis of a female child was also confirmed by the event.—R. Robinson (*Comptes rend.*, 1912, 154, 1,634).—*Pharm. Jour. and Pharmacist.*