all commodities in packages which are above three ounces in weight or where the numerical count of the individual units in the package are six or more, or where the fluid contents of the container is two fluidounces or more. Statement of weight, measure or count must appear upon the package itself as well as upon the exterior carton.

"We fail to see any reason for the application of any such law in proprietary medicines. The law is needed, no doubt, to regulate the traffic in foodstuffs, in which the question of quantity is a question of paramount importance. With proprietary medicines, however, there is no direct relation between quantity and price. The packages of proprietary medicines of all kinds vary in accordance with the character of the remedy, the size of the dose and the views of the manufacturer, but when the size of the package is once established that size is adhered to for commercial reasons if no other. The man who buys a bottle of a certain remedy does not know and does not care whether it contains one ounce or ten. His only concern is that he obtains the genuine article and gets the quantity which he has always been accustomed to receive. If the proprietor advertises one hundred doses for one dollar no additional law will be required to make him responsible for his promises as to quantity. But unless he does make some specifications of this kind the consumer will have no interest in knowing the precise weight, quantity or count contained in the package of proprietary medicine which he may buy. The law is objectionable in that it is unnecessary, so far as proprietary medicines are concerned, and makes but one more of a long list of superfluous regulations with which pharmacy is burdened."

SOME NOTES ON THE LA WALL ASSAY PROCESS.

H. W. JONES.

Some time has now elapsed since La Wall published his process for the assay of alkaloidal fluidextracts.[1] During this time we have observed in the literature but one comment upon the process, that being by Sayre,[2] who applied it to Fluidextract of Gelsemium and obtained excellent results after slightly modifying the procedure.

La Wall's method is as follows:

"Dissolve 25 gm. of sodium chloride in a 100 cc. graduated, stoppered cylinder, in water enough to make 85 cc. Add 10 cc. of the fluidextract to be assayed and then make up the volume to 100 cc. Agitate well for about one minute. Let stand for five minutes; agitate again and pour on a dry filter, collect 50 cc. of the filtrate, representing 5 cc. of fluidextract and shake out with the proper amounts of the appropriate solvents, as directed for the final extraction of the alkaloid."

It is apparent that this process, if successful, would mean a considerable saving, not alone of time, but also of solvents, and these points would appeal to

[1] J. A. Ph. A., January, 1913, p. 29.
[2] A. J. P., May, 1912, p. 193.

many analysts who have a large number of assays to carry through in a routine way. On the other hand, it carries with it the objection common to all methods employing the aliquot part, that unless the measurements are carefully made in accurately graduated instruments errors may result. We think, however, that for routine work this objection may be set aside. We greeted the method with approval and tried it out with strong hopes for success.

The first trials were somewhat disappointing, especially when chloroform was used as a solvent, as the density of the saline solution was so near that of the solvent that difficulty was experienced in obtaining a rapid separation of the two liquids. We finally adopted the plan suggested by Sayre,[3] of replacing the salt solution with 2 percent sulphuric acid and obtained results comparable in every case with those obtained by the longer processes when applied to such fluidextracts as Henbane, Stramonium, Belladonna Leaves and Root, Pilocarpus, Ipecac, Aconite and Coca.

With F. E. Guarana the results were very gratifying. A fluidextract assaying 3.55 gm. alkaloids per 100 cc. by the U. S. P. process gave 3.53 alkaloids per 100 cc. by the La Wall process. With F. E. Kola Nut the results were equally good.

Applied to F. E. Veratrum Viride the process was found to be especially good. In this case a slight modification was introduced, as follows:

To 80 cc. of 2 percent acetic acid in a 100 cc. graduated cylinder add 10 cc. of F. E. Veratrum and make up to 100 cc. with water. Shake thoroughly, allow to stand one-half hour, shake again, and filter off 50 cc.

Place this in a separator, make alkaline with ammonia and shake out with, first, 40 cc. ether and 10 cc. chloroform, second, 20 cc. ether and 5 cc. chloroform, third, 20 cc. chloroform. Evaporate solvents in a tared flask, dry and weigh.

This method was compared with a method whereby the fluidextract was made alkaline with ammonia and shaken out with 40 cc. ether and 10 cc. chloroform and then twice more with one-fourth these quantities. The combined solvents were shaken out three times with 2 percent acetic acid and the combined acid shakings were then treated as stated above.

A F. E. Veratrum Viride assayed by the La Wall modification gave 1.18 percent alkaloids and by the longer method 1.11 percent alkaloids. Another sample assayed by the La Wall modification gave 1.16 percent alkaloids and by the longer process 1.1 percent alkaloids. A proprietary tincture by the La Wall modification gave 0.53 percent alkaloids and by the other method 0.51 percent alkaloids.

The usefulness of the method as applied to F. E. Gelsemium has been fully gone into by Sayre, as stated above, and our results have verified his conclusions.

Having occasion at one time to assay a particularly insoluble Powdered Extract of Henbane, which by the regular process yielded only 0.23 percent total alkaloids, it occurred to us that the La Wall process might be applied with better success. Five gm. of the extract were dissolved as completely as possible in 10 cc. of diluted alcohol with the aid of heat. This was then poured into 50 cc. of 2 percent sulphuric acid contained in a 100 cc. cylinder, the container rinsed out with successive small portions of 2 percent acid using about 30 cc. for this pur-

[3] A. J. Ph., May, 1912, p. 195.

pose, the rinsings being transferred to the cylinder. The volume was then made up to 100 cc. and the mixture shaken thoroughly for five minutes. After allowing to stand for one hour with occasional shaking, 50 cc. were filtered off through a dry filter, transferred to a separator, made alkaline with ammonia and shaken out with chloroform. By this method we obtained 0.31 percent total alkaloids. A Solid Extract Henbane treated in the same way yielded 0.36 percent total alkaloids, while by the regular method only 0.3 percent was obtained. A Powdered Extract Belladonna Leaves assaying 1.46 percent by the regular method gave 1.42 percent by the La Wall method. We have not extended our investigations fully along this line, but believe the method may prove quite as useful for this class of preparations as for the fluidextracts.

In conclusion we wish to say that we are convinced of the utility of the La Wall process, especially when applied to those fluidextracts which are most prone to form emulsions in the regular methods of procedure or to fluidextracts which are liable to loss by heating for the removal of alcohol. It will be of interest to learn what results others have obtained with the process.

LABORATORY OF THE WM. S. MERRELL CHEMICAL COMPANY, Cincinnati, Ohio.

BACTERIN TREATMENT OF TYPHOID FEVER.

The bacterin treatment of typhoid fever is certainly interesting, and we welcome its further investigation. That this remedy will prevent the disease in the vast majority of cases has been indubitably demonstrated by the experience in the United States Army. In a paper read at the great Congress of Hygiene at Washington, Major Russell showed that in 82,000 soldiers who have been successfully vaccinated against typhoid fever the disease subsequently occurred in only four—a record that is simply marvelous. This method of prevention is certain to be adopted in civil life in communities exposed to epidemics of the disease from any cause, and the quicker physicians resort to it, the more quickly will they fall in line with the tendencies of the time.

The curative value of the bacterin treatment in actual *cases* of typhoid fever is quite another matter, and one which is at present *sub judice*. We already have remedies that are effective in the majority of cases. With the intelligent use of intestinal antiseptics like the phenolsulphonates, combined with other indicated remedies, the physician can do work of the highest order. It may be that he will do better work when to this bacteriotherapy can be added. But for this we can well afford to wait for further proof.—*Am. Jour. Clinical Medicine.*