weights and measures were buried and forgotten and I further wish that the new Dispensatory would omit old forms entirely.

I fail to see how we are to make any headway with physicians concerning the Pharmacopœia under present conditions. First, until the metric system is forced upon the doctors they will neither read or write it, but will continue to use the old forms. In the second place, I declare, without fear of contradiction, that they are being educated away from the pharmacopœia instead of toward it. I refer to scholastic courses of education, now, and not to commercial education.

We all know where the latter leads to, without further comment. When the time for teaching Materia Medica and Pharmacy are so shortened as to give but thirty to forty hours' work in medical courses, kindly tell me, how, when, or where, can an instructor find time enough to teach anything concerning the pharmacopœia or of its listed drugs and preparations. I have tried for several years, asking for more time each year, in return being assigned shorter hours, until I am asked this year to teach these two important subjects within twenty-five hours. The *curricula* of other medical schools are following the same plan and a remonstrance is met with the declaration that the student does not need a longer time. Pharmacology and therapeutics are the important subjects, consequently our future physicians will know nothing of the pharmacopœia, except as an authority to be quoted, never to be used. Neither is there any time or place for the National Formulary. Thus we perceive that while the druggist may acquire a very complete knowledge of the pharmacopœia the practical application largely ceases when we reach the physician, because of his ignorance regarding it.

We must be alive to these conditions and exert a different influence in educational matters, else we as druggists will some day awake to the fact that the pharmacopœia will be the center of attraction of a mutual admiration society, composed of all other scientists, to the exclusion of the practicing physician.

THE NEED FOR GREATER UNIFORMITY IN LAWS RELATING TO THE MANUFACTURE, SALE AND USE OF POISONS AND HABIT-FORMING DRUGS.*

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The untoward harm that might result from the promiscuous distribution of admittedly potent drugs and chemical substances was early recognized as being sufficient reason for the enactment of legislation designed to restrict the manufacture, sale and use of articles that might reasonably be classed as poisons or habit-forming.

Based on this generally accepted need, laws have been enacted for practically every political division constituting what is now designated as the United States. A compilation of the essential features of these several laws has been made, in

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connection with a general study of the laws relating to public health matters, by the Public Health Service of the United States, and published as Public Health Bulletin No. 56, entitled a "Digest of Laws and Regulations in force in the United States Relating to the Possession, Use, Sale and Manufacture of Poisons and Habit-Forming Drugs." Even the most cursory comparative review of the requirements embodied in the several laws included in this compilation will suggest the imperative need for some form of correlation between these laws and the desirability of having greater uniformity in their general provisions and requirements. To bring this matter more directly to the attention of pharmacists, who, above all, should be interested in the efficiency and equity of laws of this kind, I have endeavored to compile some of the requirements in statistical form.

In connection with the laws regulating the practice of pharmacy, it may be pointed out that all of the fifty-four political divisions enumerated have some form of pharmacy law. Two states, New York and Pennsylvania, require graduation, and a third state, North Dakota, will require graduation in 1915 as a prerequisite to registration. Forty-four of the political divisions by statute-law require practical experience, four require five years' training, thirty require four years and ten require three years. In three of the remaining states, the boards of pharmacy have adopted regulations requiring four years of practical experience, or its equivalent, for registration. Forty-two of the political divisions provide for revocation of license for cause. In forty-one political divisions the pharmacy laws apply only to retail drug stores. In but two states, California and Oregon, are the manufacture of drugs mentioned, and in two other political divisions, the State of Washington and the District of Columbia, the law applies, equally, to wholesale and retail dealers. In seven additional political divisions, the law can be interpreted to apply to other than retail dealers.

In connection with the provisions relating to the manufacture, sale and use of poisons, the variation is equally great, if not greater. Up to the present time, no satisfactory definition for the word "poison" appears to be available, and the several laws vary, from "any substance which, in doses of 5 grains or less, is destructive to human life" to "any drug, chemical, medicine or preparation liable to be destructive to adult human life in quantities of 60 grains or less." In some states the law is made to apply to "any deadly drugs"; "any article belonging to the class of medicines usually denominated poisons," or "articles of a nature poisonous to the human system or to animals."

Equally chaotic conditions exist in connection with the schedules of poisons included in the several laws, as now enforced; these laws enumerate a total of one hundred and sixty-four articles. Thirty-nine of these occur but once, twenty-seven occur twice and twenty occur three times. The following table presents a list of the articles enumerated most frequently, in the order of their occurrence:

Corrosive Sublimate	in	38 laws
Opium	"	36 "
Chloroform	"	35 "
Carbolic Acid	"	34 "
Arsenic	"	34 "
Oxalic Acid	"	33 "
Hydrocyanic Acid	"	32 "
Potassium Cyanide	"	30 "

Arsenic, preparations of	in	29 laws
Croton Oil	"	27 "
Chloral Hydrate	"	26 "
Mineral Acids	"	25 "
Aconite and preparations	"	25 "
Belladonna " "	"	25 "
Digitalis " "	"	25 "
Cotton root " "	"	24 "
Strychnine	"	24 "
Oil of Savin	"	23 "
Ergot and its preparations	"	22 "
Oil of Tansy	"	22 "
Cantharides and its preparations	"	21 "
Nux vomica " " "	"	21 "
Oil of Almonds, essential	"	20 "
Creosote	"	20 "

Among other frequently mentioned drugs and preparations, are conium (18), colchicum (17), Henbane (14) and veratrum viride (13). Strangely enough, morphine in its several forms, occurs in but a total of 16 laws. Cocaine and its salts are enumerated in 14 laws, and "coca or its preparations or alkaloids" occurs in but one. Among other substances that occur but once, are salts of barium, arsenate of copper, sulphate of copper, compound solution of cresol, ether, nitroglycerin and santonin. This feature of the laws relating to the sale of poisons, is no more variable than are the other restrictions usually included in these laws. For instance, of the fifty-four laws now in force, fifty require the word "poison" on the bottle or container, though there are a number of variations in the requirements as to how the word is to occur. Thirteen laws require the enumeration of antidotes on the label. Forty-five laws require some form of poison-register and thirty require that the seller make due inquiry that the substance is to be used for a lawful purpose.

Legislation designed to restrict the sale of narcotic drugs, is equally variable, and, in this connection, it may be pointed out that while thirty political divisions restrict the sale of opium, only seven laws include "the alkaloids of opium." Twenty-seven mention morphine, five mention codeine, sixteen mention heroin and sixteen include derivatives of the substances enumerated. The sale of cocaine is legislated against in no less than forty-eight of the political divisions, but so far as known, only sixteen restrict the sale of hydrated chloral.

In thirty-one of the political divisions, the law requires the preservation of prescriptions or orders for narcotic drugs. Eight of these laws do not specify the period of time, one requires preservation for one year, three require preservation for two years, one requires preservation for three years, seven require preservation for five years, and no less than eleven require that the prescription be permanently kept on file.

Up to the present time a total of eighteen states, have enacted legislation relating to the sale and use of methyl alcohol, and the greater number of these states, declare it unlawful to sell products intended for the use of man, either for internal or external purposes, which contain methyl alcohol or wood spirits. Several states define a drug or a food as being adulterated, if it contains any methyl or wood alcohol. Little or no attention has as yet been given to the toxicity of methyl alcohol by absorption and apart from the several provisions included under occupational intoxications, no legislation has been noted that is designed to restrict or discourage the use of methyl alcohol in confined places.

Legislation designed to prevent the misbranding of drugs and of foods, while of comparatively recent origin, is already showing evidence of variance and vagaries. Some effort has been made, in connection with Public Health Bulletin No. 56, to show the variations existing in the requirements of the several state laws, but these variations are so well known to manufacturers and others who attempt to do an interstate business, that it will not be necessary to do more than call attention to them at this time.

The need for greater uniformity in state legislation on matters relating to public health, has been discussed repeatedly and several organizations, notably the American Bar Association, are making consistent efforts to bring about greater correlation in the statutes of the several states. The newly organized National Drug Trade Conference, gives promise of developing into a clearing-house for legislation relating to the several branches of the drug-business and incidentally, therefore, to the laws relating to the manufacture, sale and use of poisons and habit-forming drugs. From every possible point of view the development of such a clearing-house would be of advantage to all concerned and it should be encouraged by the members of the several organizations interested. The consistent censoring of proposed drug legislation, by members of a representative body, in which all branches of the trade have a voice, would serve to eliminate from our state laws much of the provincialism so evident at the present time. In conclusion it may be asserted that, if laws relating to pharmacy could be designed on a broader basis, they would serve to provide ample protection for the health and welfare of the public, and yet avoid many of the objectionable requirements which tend to hamper trade and unduly interfere with the conduct of legitimate business.

DISCUSSION.

Dr. Beal said that Mr. Wilbert had called very emphatic attention, in a very successful way, to one of the crying evils of the day, and to the fact that pharmacists in the past had operated upon too narrow lines, and said that by their failure to really establish a series of laws which would be a protection to the public, while at the same time they gave satisfaction to the pharmacists themselves, that they had been laying up trouble for themselves. The time had come when it was necessary to face about, and pharmacists should remember that their own best interests would be conserved by looking after the best interests of the public. He thought this matter should be brought to the attention of the National Drug Trade Conference, with the recommendation of this Section—or the recommendation of the Council—that an attempt should be made to draft some general form of legislation that would be sufficiently comprehensive, and at the same time provide an effective remedy for these evils.

Mr. Freericks expressed himself as having been very much impressed by the remarks of Mr. Wilbert, and that his own study of the various laws of the country pertaining to the subject of pharmacy, went to prove that, nearly always, there was some provision that, if tested, would be found invalid, if brought before the courts, that, while there was a general effort being made to improve such legislation, there was, usually, some local issue or condition, which induced the pharmacists of any given State to introduce into the draft of the bill presented, something that it should not contain. It had occurred to him—and he believed this was in line with a suggestion made in the paper just read—that it would be well to have, in connection with some association, a permanent committee, to which all intended legislation from the different States could be submitted for comment and suggestions. Because, no matter how many model laws might be drafted, there were always local conditions that would induce the "tacking-on" of certain provisions outside of the particular one considered in any single model draft. He felt sure, that if some central commission or committee were

charged with the business of looking after these things, it would be a great help—a "clearing-house," or something of that kind, as Mr. Wilbert had suggested.

Mr. Wallace thought that all must agree with the remarks of Messrs. Wilbert, Freericks and Beal, and suggested that a clearing-house had already been established in the National Drug Trade Conference, for this very purpose. It was true that, up to the present time, nothing but anti-narcotic legislation had been discussed before that body, as that was such an important subject that it necessarily occupied all the time the delegates could give to the question of legislation. The resolutions creating the National Drug Trade Conference, specifically provided that this work was the particular purpose of its establishment, which statement, he thought, would be borne out by the proceedings of the past year.

Mr. Freericks agreed, that it was true that the National Drug Trade Conference could work out the purpose indicated by the writer of the paper.

MANUFACTURE OF ABSORBENT COTTON.

As a general proposition absorbent cotton cannot be economically manufactured on the small scale, as the operation requires technical experience, special apparatus and a plant representing large capitalization. Some manufacturers, so-called, eliminate the preliminary manufacturing operations and buy the amount of absorbent cotton they may need, and use it as "raw material," preparing from it the various antiseptic cottons or specialties by their particular formulas. On the commercial scale the following outline represents the steps usually followed by the average manufacturer: The fat is first removed from the cotton by prolonged boiling under pressure with a solution of sodium hydrate or of an alkaline rosin-soda soap solution, and thorough washing with soft water. The cotton is then bleached by immersion in a clear solution of chlorinated lime, the latter being removed by one of several methods. One method consists in profuse washing with water, treatment with very dilute hydrochloric acid, immersion in a bath of sodium hyposulphite to remove the liberated chlorine, and addition of stearin soap. This reacts with the hydrochloric acid still retained by the cotton, stearic acid being liberated, this imparting to the cotton the peculiar "crunching" between the fingers when handled, a quality some users demand. This "crunching," however, may be removed by treatment with a very dilute solution of sodium bicarbonate. If desired, the absorbent property of the cotton may be destroyed by rinsing the material in a solution of alum. To secure a uniformly and satisfactory product thorough and copious washings with water after all operations must be rigidly observed.—*The Pharmaceutical Era.*