

Section on Education and Legislation

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SOME ASPECTS OF OUR POISON LAWS.

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If there is any one here that handles poisons in a commercial way he can doubtless anticipate parts of this paper. For any one that handles poisons must label them and to label them properly is a difficult task. It is not such a troublesome task where the business is confined to one single state, but the uncertainties increase when an interstate business is attempted. In one single state there is generally the state poison law to be complied with, and, in addition, sometimes the city ordinances of some of the larger cities; while in interstate business there are forty or fifty poison laws to be taken into consideration. And yet without undertaking an *exhaustive* criticism of present poison laws, we are here to-day advocating the enactment of still another poison law; a law especially applicable to the interstate traffic in poisons.

The real difficulty in labeling poisons is not exactly in the *wording* of the label. It is easy, as a rule, to decide upon the wording of poison labels, selecting the color of the ink, the proper antidote, etc. The serious part of the work comes in deciding what articles are poisons and what are not. On this feature (deciding what articles are poisons) there seems to be no uniformity of opinion. Wide variations in the individual state laws occur at this point, and one is finally brought to the homely question: What is a poison? The answer to this question is, or at least seems to be: We do not know. Just here is where the trade comes into difficulties. The trade as a whole wants to comply with the laws, but can find nothing substantial in the way of a poison law upon which to stand.

But surely in order to properly classify our various drugs and preparations as poisons or non-poisons, and then to label them, we must inquire as to the meaning of the word "poison." In these days of multi-legislation it becomes essential at once to inquire what the statutes say a poison is. Some definitions or statements that might be interpreted as definitions from state laws follow:

"Any substance which in doses of 5 grains or less is destructive of human life." (New Jersey.)

"Any poisonous medicine fatal to human life in doses of 15 grains or less." (S. D.)

"Any drug, chemical, medicine, or preparation liable to be destructive to adult human life in quantities of 60 grains or less." (N. Y.)

"Any drug, chemical or preparation which, according to standard works on

medicine or materia medica, is liable to be destructive to adult human life in quantities of 60 grains or less." (Kentucky.)

"Any drug, chemical, or preparation which according to the Pharmacopœia and Formulary and Homeopathic Pharmacopœia is destructive to adult human life in quantities of 60 grains or less." (N. Y.)

"All vegetable poisonous drugs and their pharmaceutical preparations and alkaloids." (N. M.)

"Article of a nature poisonous to the human system or to animals." (Louisiana.)

"Any chemical, drug, or medicine which is poisonous or which contains a poison." (Indiana.)

"Any article belonging to the class of medicines usually denominated poisons." (Miss.)

"Any article or articles of medicines belonging to the class usually known as poisons." (Neb.)

"Drugs commonly known as deadly poisons." (Porto Rico.)

"Any dangerously poisonous drug." (Utah.)

"Any deadly poison." (Hawaii.)

Much vagueness and indefiniteness is seen in making a comparison of the above definitions. But note, too, the deplorable lack of uniformity. Upon which of these definitions can one rest and feel sure that he is right, or even reasonably sure? How can any one comply with them? At first thought it would seem that poison in one state would be poison in another state, and thus a uniformity of definition might be expected. But apparently what is poison for mankind in one state is food for mankind in another state.

The conclusions of the courts are reflected in the following:

"A poison is an agent which when introduced into the animal organism, is capable of producing a morbid, noxious or deadly effect upon it."

"Any substance that, when taken into the system, acts in a noxious manner by means not mechanical, tending to cause death or serious detriment to health."

"A substance of definite chemical composition" which when taken into the living organism is capable of causing impairment or cessation of function."

"Any substance which when taken into the body and either by being absorbed or by its direct chemical action upon the parts with which it comes in contact or when applied externally and entering into circulation is capable of producing deleterious effects."

Some dictionary definitions of poison are offered. But they do not bring us much nearer to a satisfactory idea of a poison.

"A general name for all substances which, when introduced into the animal economy either by cutaneous absorption, respiration or the digestive canal act in a noxious manner on the vital properties or the textures of an organ."—The *Dunglison Medical Dictionary*.

"A substance having an inherent deleterious property which renders it when taken into the system capable of destroying life."—*Wharton & Stille Medical Jurisprudence*.

"A substance which, on being applied to the human body, internally or ex-

ternally, is capable of destroying the action of the vital functions, or of placing solids and fluids in such a state as to prevent the continuance of life."—Black's Law Dictionary.

"A substance of definite chemical composition, which when taken into the living organism is capable of causing impairment or cessation of function."—Bouvier's Law Dictionary.

"Any substance which, when taken, applied to the body externally or in any way introduced into the system, is capable, without acting mechanically, but by its own inherent qualities, of destroying life."—Cyclopedia of Law.

"Any substance which, introduced into the living organism directly, tends to destroy the life or impair the health of that organism."—The Century Dictionary.

"In its scientific sense this word applies to any substance which, taken in small quantity into the body of a living animal, is capable by its chemical action, exerted locally or after absorption into the blood, of producing death or notable injury. This definition excludes substances which act mechanically, such as broken glass, or physically, as very hot water."—Century Dictionary.

Further definitions, selected from those elaborated by private authorities, are appended.

"A poison is defined as any chemical which when introduced into the body or generated within the body produces death or disease or permanently or temporarily impairs an organ that is healthy or apparently healthy."

"A poison is defined as any substance which when taken into the body in stated amounts, and usually in relatively small amounts, acting chemically, is capable of producing on ordinary persons, or an average person, death or grave injury to health."

"A poison is a substance, as we understand it, which when taken into the body, on account of its chemical constituent, seriously impairs or destroys the functions of some part of the body or it may kill, or simply impair."

"A poison is defined as any substance when introduced into the body in sufficient strength and in relatively small quantities and acting chemically is capable of producing death or serious injury to health in the case of an ordinary individual in average health."

"Toxicology is the science of poisons. A substance may produce deleterious results in several different ways. In the first place, it may act mechanically and produce disturbances in that manner. For instance, in the case of glass or other fragments, or by physical action as in the case of extremely hot water, or it may produce deleterious results by local chemical action which destroys the tissues with which it comes in contact, like sulphuric acid, or it may produce deleterious results by organized material which occurs in the system and produces detrimental results and it may act chemically upon the blood, or it may be carried by the blood to other parts of the body and there produce chemical action which is detrimental which is the case in true poisons; or substances can be taken in excessive quantities, substances naturally taken may also, when taken in excessive quantities, produce deleterious results by the increased quantity. For instance, you may take too much food of one kind or another."

It is plain to be seen that there is no unanimity of opinion in the best definitions at our command. Some definitions are so broad that one could hardly point out any single article and say, "It is not poison." Common salt is referred to by one of our prominent medical journals as follows: "A case reported in this issue calls attention to the well-known yet not always sufficiently recognized fact that sodium chloride, while the least toxic of the group of similar metal chlorides, *is a poison* which may be abused with fatal results." And from another issue of the same journal we learn that over doses of this same sodium chloride are commonly used in China as a means of committing suicide. One school thinks only of the *quality* of the physiological effect produced by any given substance; and if the effect is deleterious in any way then the substance is a poison. Another school thinks of the *quantity* of the effect produced; thus a small quantity of effect upon you might be beneficial, while a larger quantity of the same effect might be injurious. As an example a little strychnine might be beneficial, while more might be deleterious.

We should not overlook in our survey of the question the varying idiosyncrasy, or susceptibility of man and animals to certain articles. Poison Ivy is much more troublesome with some people than with others. The effects of buckwheat and strawberries on some people are familiar. Rabbits are said to withstand large doses of atropine. The hedge-hog is reported to withstand unusual doses of numerous articles that we commonly call active poisons. And are not birds quite indifferent to strychnine? These considerations only increase the difficulty of framing a satisfactory definition for poison, and at the same time increase the need for such a definition. There are hosts of articles generally regarded as harmless that should be classified as poisons if one is to follow the definitions, the laws, the court decisions, etc. It is not impossible to classify the various drugs and chemicals as to poisonousness, but no two people would do it alike. They would make up classifications widely different. Again the need for some one master classification is shown. And a proper national poison law would be such a master classification.

A proper national poison law would leave no doubt in the mind of the producer, dealer, or consumer as to just what articles are to be considered poisons and labeled and handled accordingly. With such a law it would not matter that one says chemistry and physiology know no substance as such which is deleterious to health, but every substance has a definite ratio to the weight unit of the human body below which it is without any effect, and above which it exerts its specific influence. It would not matter that some pronounce caffeine poisonous, while others proclaim it harmless. With a proper national poison law enacted everyone would be on an equal footing and one person would know as well as another whether any given preparation should be handled as a poison or not. In other words with a standard once set all would have an equal chance to live up to it.

Just what a national poison law should comprise is a subject that needs study. But certainly the law should be as definite as possible. It should not depend for its efficiency on such vague expressions as "active poison," "virulent poison," "acting in a noxious manner," "capable of producing deleterious effects," "liable to be destructive to adult human life," etc. If, as it appears, we can not now

define a poison, let us perhaps omit the definition and frame our law in some other way. Let us in the law enumerate the poisons by name. It will be a long list and an incomplete one. But to-day we have no list at all, so that even an incomplete list will be a step in advance. Let us authorize changes to be made in this list and additions to be made to it. By this means an article at first regarded as non-poisonous can later be put on the poison list. Our knowledge is constantly changing, so our poison list should. An article may be used some years before it is learned that it is habit-forming. In the beginning it would not be found on the list, but subsequently should be.

The law might be made to say such and such things are hereby declared poisons and must be treated in such and such ways. Just as our tariff laws contain almost unending lists of articles that must pay duty so and so. Perhaps classifications could be embodied in the law, as for example Schedule A—Habit-forming drugs, Schedule B—Heart stimulants, Schedule C—Emmenagogues, etc. But these schedules or lists are not sufficient without the individual poisons being mentioned by name (and perhaps also by quantities when in combination). If this provision could be made so that the three Secretaries (Agriculture, Treasury and Commerce) by means of appropriate advisers could keep the schedules up to date, we should have an effective statute.

Such an arrangement is not wholly new. Canada now has a law somewhat on these lines. But with us there would be much in it that is new. It will be necessary to decide what should be considered poisonous for practical purposes. It is easy to decide what is poisonous on purely theoretical grounds; but we live in a practical world. Still we have already made beginnings in establishing standards of poisonousness and we can go on. You are doubtless familiar with the interesting work along these lines using strophanthin made according to Thoms as a standard for comparison. A commission or a committee under the direction of the Bureau of Chemistry or perhaps of the Public Health Service would no doubt be able to do good work on this subject. It is to be remembered, however, that in a national poison law the aim is not to establish fine medical distinctions in regard to poisons, but to establish a working basis, a practical basis for traffic in poisons in interstate commerce of such a nature that consumer, dealer, and purchaser will be equally assisted and protected.

DISCUSSION.

H. H. Rusby, of New York, said he would like to add a definition: A poison is any substance which, introduced into or applied to the bodily tissues, is capable of producing death otherwise than by mechanical action.

C. T. P. Fennell, of Cincinnati, said the English law placed it on a much broader basis. The claim there was, that any substance which entered the human body and deranged any function was a poison. There was one substance which, recently, caused a great deal of trouble in Cincinnati, a substance not mentioned in any of these laws—barium chloride.

C. A. Mayo, of New York, said the question of poisons happened to be at an acute stage just now, the postal regulations regarding the shipments of poisons having been entirely upset by recent United States Court decisions, and the postal authorities seemed to be entirely at sea as to what should or should not be permitted in the shipment of poisons by mail. The regulations heretofore in force gave permission to shippers of poisons to ship only to dealers, but the United States Court had decided that these regulations were illegal. It seemed to

him that the Association was in a position to give counsel and advice to the authorities, and he thought it might help the situation to offer such advice; therefore, he proposed the following resolution for discussion in connection with this paper:

"WHEREAS, The regulations regarding the shipment of drugs by mail are vague, indefinite and unsatisfactory, and

"WHEREAS, The drafting of such regulations requires special knowledge of pharmacy and its problems. Therefore, be it

"Resolved, That the Chairman of this Section appoint a special committee of five to prepare such regulations and submit them to the postal authorities for consideration."

J. H. Beal, of Scio, Ohio, said he thought acknowledgment was due Mr. Murray for the very valuable paper he had presented. He knew something of the labor involved, because, some fifteen or twenty years ago, he had undertaken to find a definition of the word "poison" which could be used in the drafting of a poison law, and had searched diligently for all possible information on the subject. He had finally come to the conclusion that Mr. Murray seemed to have come to here, that the physiological or scientific definition of poison, based upon physiological action, would not do for a legal definition; that a legal definition of poison must be more or less arbitrary. Then he considered the question of whether or not such definitions as were found in the Pennsylvania Poison Law could be used, making the question of whether it should be labeled poison depend upon the quantity required to produce death, but the toxicologists were so much at variance upon this point that he had discarded the idea as impracticable.

He had finally drafted a bill, which had been enacted into law in the State of Ohio, and was still in force there. This law did one of the things which Mr. Murray had recommended, it attempted to enumerate the poisons. It began by stating that "The following substances shall be regarded as poisons:" and after enumerating a list of such articles, provided a series of exceptions, excluding certain insoluble substances that had never been known to produce poisonous or fatal results. Further study had convinced him that a satisfactory legal definition of the word "poison" would require the adoption of a standard toxicity unit—say, for instance, the minimum lethal dose in milligrams which would occasion the death of a white mouse of standard weight. He thought by experiment along this line a standard toxicity unit could be developed, and then the law could state that any substance which had a toxicity value of a specified number of these should be deemed a poison. Mr. Beal concluded by saying that he would demur strongly to Mr. Murray's suggestion that any body or committee of men be permitted to extend the list of poisons or take away from it.

H. P. Hynson, of Baltimore, moved to refer Mr. Mayo's resolution to the House of Delegates. He said he was always glad when he found that anybody else entertained an idea or conclusion that agreed with his; it always encouraged him. He was particularly glad to hear Mr. Beal and the author of the paper say that it was desirable to be specific in this matter of poisons, and refuse to accept any general definition. He would especially impress upon the young men in pharmacy that they should stand for a definite and specific definition as to poisons. He also thought that narcotic and anti-narcotic legislation should be likewise specific. He told of the troubles they had in Baltimore, with three anti-narcotic laws, a general State law, a poison law, and a city ordinance. This had resulted in great confusion for a while, but he had finally succeeded in getting out a line of interpretations which, in spite of prejudice, had been accepted. They had gone to their state's attorneys and judges, and asked them to accept this as an interpretation of the law, and thought that when they got them to accept such specific description of each drug their troubles would be pretty well over.

J. F. Windolph, of Norwich, New York, was impressed with the importance of taking some action along the lines Mr. Mayo had suggested. He had in his possession an official definition from the Postoffice Department as to what was considered a poison, and he thought the members would be impressed with the idea that the Postoffice Department needed some expert advice in the enforcement of its amended regulations. The department did not wish to carry out the law along technical lines, and it had issued a rule to the effect that a medi-

cine would not be considered a poison if it did not contain sufficient poison to render the composition a poison.

Adverting to his resolution just offered, Mr. Mayo said he wished to forestall objection to it, or any attack by Mr. Hynson, by saying that this resolution did not involve a question of policy on the part of the Association, and he hoped the Chairman of the House of Delegates would agree with him in thinking that it was simply asking for the appointment of a special committee of a technical nature. He thereupon re-read his resolution, and said that the definition just recited by Mr. Windolph gave a good idea of what pharmacists had to go up against when it came to the postal authorities.

W. C. Abbott, of Chicago, said it seemed to him that, as an example of vague legislation,—of which there had been a great deal—this attempted poison legislation stood out first. He regarded the proposed regulation of the Postoffice Department to declare all poisons un-mailable as little less than silly. It was an attempt to regulate the practice of those who knew a great deal more about the substances classed as poisons than those making such regulations. He believed that the purpose of the proposed regulation of the department was intended to protect the public, but this piece of "bureau legislation" was so widely general that it stood as a dead letter in practice, because it could not be enforced; or, if enforced, could only be so enforced to the detriment of the many, and would not be in harmony with the real purport of the law. He held that neither the pharmacist nor the physician should be handicapped in the manner he procured or prescribed poisonous substances, or potent remedies of any sort or character. What mattered it, in his business whether he got it by mail or express. At last, it was up to the educated pharmacists and physicians to handle this question properly. He heartily seconded the resolution offered by Mr. Mayo.

Speaking again on the subject, Mr. Windolph said he understood that the Criminal Code, section 217, excluded poisons, but gave the Postmaster General power to formulate certain rules and regulations for the admission of certain of these poisons, and the regulation which had been amended to conform to the court's decision, apparently did not admit any medicine containing poison, because the words "containing poison" had been omitted from the regulation, which now read that "medicines and anaesthetics" might be admitted. It was further provided that the word "medicine" should not be understood as meaning "poisons;" and according to the law and regulations attempting to make an exception thereto, it was not possible to legally mail any preparation containing a trace of poison. However, it was the purpose of the Postoffice Department to permit the mailing of preparations containing a minimum amount of poison. They were very much in the dark, he said, and didn't know just what they did mean. The definition had been given to him, that what was meant was a poison which, in the ordinary dose, was not fatal.

Mr. Murray said this discussion simply bore out the position that no one knew what a poison was, and the pharmacists did not know where they stood in this matter. His idea about the Postoffice Department was that they knew no more than the pharmacists, although they would like to know. He had with him a copy of the ruling of the department, to which Mr. Windolph had referred, which read: "Medicines containing a small proportion of poison are mailable, and medicines containing poison to such a degree as to make the composition a poison are not mailable." He said he did not understand what Mr. Beal meant by saying that this was not desirable.

Mr. Beal replied that he did not deem it advisable to give to any bureau the right to arbitrarily extend or diminish the list of substances which shall be deemed poisons, i. e., that he did not believe in "bureau-legislation." He was not referring to the postal regulations.