to the use of the more reliable and unchanging preparations of the U. S. Pharmacopeia.

As a means of familiarizing physicians with these works I would strongly recommend future joint meetings between the many branches of the American Pharmaceutical Association and local medical societies. United action, if properly directed and maintained, would serve to promote materially the interests of scientific pharmacy. We have arrived at an era in the history of American medicine at which the trained pharmacist and the physician can each render important service to the profession of the other if granted a favorable opportunity.

Moreover, it is fitting that the medical profession should pay just tribute to the significance of the service which the National Formulary is rendering both to practitioners and to the larger public.

I find that many physicians are not acquainted with the contents, objects and meaning of the National Formulary. For the benefit of this class it may be pointed out here that this neat volume contains many excellent formulas for preparations, none of which have been as yet introduced into the U. S. Pharmacopeia, but which were formerly made after different formulas (in different sections of the county and also in the same city), and have come into established use, but have been brought, after much experimentation and labor by the committee on National Formulary of the American Pharmaceutical Association, to a common, authoritative standard. The above-named committee having accomplished the stupendous task set before it with success, it behooves the medical profession to cooperate whenever possible by accepting the formulæ contained therein, "instead of designating any special maker's product." It is not my intention to advocate the use of the National Formulary to the exclusion of prescriptions written at the bedside to meet the indications presented by individual cases, to which preference is to be given in the majority of cases.

It may well be asked why learned members of the profession should permit the use of their names by manufacturers of preparations foisted on the market solely for commercial reasons. Again, why should the information given to the medical profession by these manufacturers be regarded as authoritative and convincing by the rank and file of the profession? Wiley[2] has well said:

> We have reached a stage in the evolution of therapeutics and practice in which the physician can take a firm stand. There are plenty of remedies of known character to employ his entire skill and to furnish the munition of his therapeutic armament. There can be no excuse, therefore, for the recommendation or prescription of the secret, fake or unknown proprietary remedy.

In this connection of particularly evil omen for the attainment of this most desirable state of affairs is the strong tendency, already emphasized, to prescribe proprietaries. Physicians are too apt in prescribing to be controlled by motives of convenience, using the remedies that are brought to their attention and exploited by convincing hired agents, instead of taking the precaution and trouble to acquaint themselves fully with the official preparations so abundantly to be found in the United States Pharmacopeia and National Formulary. As a means of counteracting this subtle, widespread, yet influential tendency, a more intimate knowledge of the contents and aims of the United States Pharmacopeia and National Formulary would, I strongly believe, prove efficient.

The intention of the present paper is not to present a laudatory account in ornate phrases of the works under discussion, but rather to eradicate the curious notion which numbers of physicians of this country have that what is of first-rate therapeutic value is to be found outside, among the newer, unofficial preparations. If physicians could be induced to devote more of their energies to the study of the remedies that have stood the test of time a more healthful, robust, therapeutic tone would be the inevitable result. I am pleading for a spirit of unity among the members of the American Medical Association regarding this important question.

2. THE JOURNAL A. M. A., Nov. 9, 1907.

THE PHARMACOPEIA AS A LEGAL STANDARD.*

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Many years before the publication of the first edition of the United States Pharmacopeia it was recognized by the leaders of the medical and pharmaceutical professions that standards for potent well-known drugs were highly desirable, if not absolutely necessary for the proper treatment of human ailments. Tangible evidence of this feeling was manifested by the publication of a number of books by various authors which contained standards or descriptions of drug products of much value. The first edition of the Pharmacopeia appeared in 1820 and was immediately voluntarily accepted as the proper guide by both professions. Successive editions appeared decennially; and Congress in 1848 recognized this authority as the legal standard for drugs imported into the United States in the following language:

> If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the examiner, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh, London, French, and German pharmacopeias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made on the invoice, and the articles so noted shall not pass the custom-house, unless on a reexamination of a strictly analytical character, called for by the owner or consignee, the return of the examiner shall be found erroneous, and it is declared as the result of such analysis, that the articles may properly, safely, and without danger, be used for medicinal purposes.

The necessity of thus recognizing the Pharmacopeia had been emphasized by numerous investigations of medicinal agents which showed that a great number of inferior articles were imported into the United States. These examinations were largely stimulated by the activities of the Philadelphia and New York colleges of

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

pharmacy. The latter repeatedly called attention to the fact that large quantities of sophisticated and misbranded chemicals and pharmaceutical preparations were being daily imported. Attention was also called to the fact that a great variety of inferior drugs were passing the custom-house and that every possible effort should be made to prevent their introduction into this country. An examination of the conditions then existing showed that this country was considered the dumping-ground of Europe.

Soon after the enactment of the above law it was found that there was a lack of standards or methods for determining standards which made it difficult for the customs officials to enforce the law judiciously and satisfactorily. The descriptions contained in the Pharmacopeia were not sufficiently accurate and detailed to cause the detention of certain drugs of inferior quality; the construction of various sections of the book was not the same at the different ports; consequently action was not uniform.

On learning of these difficulties the various members of the pharmaceutical profession decided to assist in adjusting these annoyances by calling a convention of the colleges of pharmacy in New York City. The general belief prevailed that the law was ample to regulate the admission of adulterated drugs, but that additional standards were required. After full discussion the convention adopted standards for ten drugs which were forwarded to the Secretary of the Treasury with the recommendation that they be generally adopted so that uniformity would obtain at the various ports. These standards were accepted and proved highly beneficial.

This is the beginning of the adoption of actual legal standards for medicinal agents in this country. These standards proved highly beneficial and provided stimuli for the formulating of standards of other drugs and enlarging the scope and usefulness of the Pharmacopeia. During the past twenty-five years many state laws have been enacted which prescribe the Pharmacopeia as a legal standard. With few exceptions, however, little attention was given to drugs by state officials, and manufacturers and dealers were indifferent to the standards contained in this book and the activities of the state authorities. Many dealers advertised their own standards, which were arrived at by methods known only to themselves, thus making it very difficult for analysts to obtain the same results as those claimed.

June 30, 1906, this excellent authority of standards for drug products was officially recognized by the Congress of the United States in the passage of the Food and Drugs Act. Soon after its enactment the standards and methods of the Pharmacopeia were critically examined and tested by all affected. Defects, inconsistencies, unreasonable and improper standards were found in abundance. Never before was so much interest displayed or a book so critically studied. Numerous changes were insisted on and great pressure was brought to bear on the committee of revision by correspondence, personal interviews, etc., with what success can readily be seen by the number of corrections printed a year ago. Some of these changes were undoubtedly desirable, but in some cases the standard was materially lowered, and in other cases the tests were modified so as to render them inefficient. For example, it has been found that the modified test for detecting gurjun balsam in balsam copaiba is so inexact as to permit the adulteration of the latter with at least 35 per cent. of the former without the possibility of detection. Excellent as are some of the standards and descriptions contained in the Pharmacopeia, it should be pointed out that in many cases no provisions are made for excluding or permitting the admixture of any stems, sticks, sand or other extraneous and inert material with leaves, berries, bark or seed in either the whole or powdered state. For example, it is common to find from 15 to 20 per cent. of sticks and stems mixed with buchu leaves. The same is true of cubeb berries. Powdered drugs are adulterated with large amounts of sand, ground olive stones and inert foreign plant tissue. The adulterations in all cases here considered are so gross as to preclude the idea of accidental admixture. Various roots, seeds, leaves, etc., are at times mixed with inferior and spurious roots, leaves, seeds, etc. To what extent these foreign and inferior articles modify the physiologic action of the drug is undeterminable. The question frequently arises as to the advisablity of permitting the use of such admixtures. It is certain that if a preparation made from a crude drug of fine quality possesses certain therapeutic properties, the same physiologic action could not be expected from a product made from drugs sophisticated in devious ways. As an example, digitalis leaves of the second year's growth possess well known therapeutic properties, but the leaves of the first year's growth are supposed to be devoid of any material activity and the question naturally arises whether it is wise or advisable to deny entry to an importation consisting of a mixture of both of the above named leaves. In our opinion nothing should be left to chance with so important and valuable an agent as digitalis. No physician knowingly would jeopardize the life of his patient by employing this drug or any preparation made from it which he had any reason whatever to believe in any way deficient. He prescribes on the basis of a pure, efficient drug.

While the same argument may not apply with equal effectiveness to some other drugs, it is apparent that the therapeutic action would be modified to the extent that the drug is adulterated or of inferior quality.

Section 11 of the Food and Drugs Act reads in part as follows:

"... and if it appear from the examination of such samples that any article of food or drug offered to be imported into the United States is adulterated or misbranded within the meaning of this act, or is otherwise dangerous to the health of the people of the United States, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission. . . ."

The personnel of the Pharmacopeial Committee of Revision is such that their final acceptance and fixing of a standard for any drug product should be final. Any other construction placed on this authority would lead to endless confusion.

Under the above quotation from Section 11 we are firmly of the opinion that any article recognized by the United States Pharmacopeia which deviates from the standard set by this authority is improper, unsafe and dangerous for medicinal purposes, except in such cases where the product is used in the manufacture of articles which are subsequently standardized, or for the manufacture of certain definite principles, such as strychnin from nux vomica. Even in cases where the crude drug used in the manufacture of the preparations which are

subsequently standardized is so debased or of so low a standard as to preclude its use in the manufacture of pharmacopeial products it will not be considered as coming within the limits of the above statement. We are further of the opinion that a drug product which is forbidden to be sold or restricted in sale in the country in which it is manufactured or from which it is exported should be refused admission to the United States under this section. Any drug which is not good enough in the country of production or exportation for the treatment of its own people is certainly not satisfactory for a medicinal agent in the treatment of the people of the United States.

At present both the medical and pharmaceutical professions are making strenuous efforts to eliminate from their medical armament worthless and questionable remedies and are constantly turning their attention to the pharmacopeial products. The claim is frequently made that articles prepared according to the methods and formulae described by the Pharmacopeia are not uniform and it is believed by many that this non-uniformity is largely due to the initial character of the crude drugs used.

RESPONSIBILITY OF THE MEDICAL PROFESSION FOR THE USE OF NOSTRUMS.*

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In speaking of the shortcomings of the profession to a colleague some time ago he remarked, "Don't abuse the profession; we get enough of that from the old women and other enemies, most of which is unjust; but where it comes from you it comes doubly hard." My answer was and still is, we must begin reforms among ourselves before we attempt reforms among others, and as long as we repeat our sins my motto is: "Lay on Macduff!" Before we sweep other people's premises let us clean up at home and stay clean. There are but few of us who do not know the evils of the nostrum trade, both to ourselves as well as to the poor victims who suffer from it, yet do we not aid and abet this very evil? While there are but comparatively few of us who openly prescribe or dispense the so called "patent medicines," such as Jayne's Expectorant, Ayer's Cathartic Pills, Harter's Iron Bitters, or Pink Pills for Pale People, yet I heard a regular physician once lay great emphasis on the value of McLaine's Indian Root Pills or Wright's New Life Pills, both of them rank nostrums. There are thousands of doctors all over our country who prescribe or dispense stuff no better in quality and no better as far as the secrecy of the preparation is concerned.

It is a sad but too true comment when I say that more than half of the medical profession—including the best there are, professors in medical colleges even—prescribe remedies, the composition of which they are absolutely ignorant. Why do they do it? Is it because they are taught to do so while attending medical college in their studies in pharmacology and therapeutics? No? Why, then? It is because pamphlets and samples distributed by a wily, smooth-tongued detail man, who has learned to say his piece, has drummed this perverted system of therapeutics into vacant brains. It is like selling gold bricks or oil stocks; one man says thus and so, and one hundred men believe him.

When these "easy marks" look for the formula they don't find it—or find only a part of it, something like the following: Each ounce represents (not contains please remember, it *represents*) the active principles of peruvian bark, columba, crampbark and numerous other ingredients with aromatics so combined as to form a palatable preparation of the highest efficiency for the cure of all ailments of women, and it is especially useful in dysmenorrhea, amenorrhea, menorrhagia, metrorrhagia and all ovarian and other sexual irregularities and disturbances. Now, isn't this just what we all need and what we have all been looking for?

Well, it will sell; hundreds of physicians will buy it and try it on their patients, because the manufacturer sends samples prepaid or sends his salesmen, who say they are selling lots of it and that it is a good seller. Dr. Jones of Smithville has given an order for twenty gallons of it—and Dr. Smith of Jonesville wouldn't do without it and he is "making money hand over fist" out of it. While he is talking and getting the medical man jealous of Smith and Jones the physician forgets all about asking what the stuff is made of. Now I will ask: Who made and devised this wonderful formula? And in case the physician did ask or write for the formula he was merely told each ounce *represented* so much of so-and-so. For instance, to show how "muddling clear" this all is: Opium may be represented by morphin, narcein, dionin, codein, meconin, heroin, thebain or one or two or more of them! How would apomorphin do, for instance? Is digitalis represented by digitalin, digitalein, digitoxin, digitonin or what? I presume principally by what! And that will answer the purpose, will it?

But this is not the worst by any means. What does your patient get when you give him antikamnia? The company in St. Louis tells you *anti* means *against,* and *kamnia* means *pain;* so you are giving something that means pain killer. But I ask again, what is it? You don't know, yet you use it in your practice and advertise it, because every tablet has "A K" on it "so you will know that it is the genuine." I dare say more of this heart poison has been prescribed by the rank and file of the profession and medical college professors, who wrote testimonials endorsing it, than all other semi-proprietaries combined, yet no man knows to-day what's in it so far as their literature reveals to us. Aren't some of us ashamed, and if not, why not? I said no one knows what's in antikamnia. By analysis we are fairly sure that before the enactment of the Food and Drugs Act it contained in various proportion acetanilid, sodium bicarbonate, caffein and probably some citric acid. But now they are compelled by law to state that each package contains a certain amount of acetphenetidin, the pharmacopeial name for phenacetin. They also combine it with quinin, so you can write a prescription for "A K & Q," also with codein, so you can tell your patient to go to a druggist and get a dozen of "A K & C," etc.

How many times do you suppose any of your bright patients will return to you and pay you for telling them, or prescribing for them, those wonderful tablets with "A K & C" on them, that cured their headaches or coughs, or rheumatic pains, or moved their bowels, when they took "A K & C" with cascara? Not very often, when all they need is to save one of those embossed tablets and present it at the drug store with the request they want "ten cents more of those." Why do you blame your pa-

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908