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THE SUFFICIENCY OF THE OFFICIAL DRUGS AND PREPARATIONS IN THE MEDICINAL TREATMENT OF DISEASE.*

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This is the subject that was given me by the program committee, for elucidation, elaboration or extension, hence it is not of my choosing, but the subject interests me and I hope I may interest you.

We are in the midst of an energetic endeavor to stimulate the medical schools to teach better therapeutics, to teach the students to write better prescriptions, and to give them a better understanding of the orthodox drugs and the possibilities derived from their use. It is also the object of this section, and all therapeutic societies, to present to practitioners the necessity for a better understanding of the United States Pharmacopeia and the National Formulary so that the ordering of preparations whose exact constituency is not known may become a disgrace of the past and not a perpetuity of the carelessness or ignorance of the present.

That it is utterly unimportant to the patient what name the physician gives to his disease or condition is self-evident. He comes to be cured, or at least to have his troublesome symptoms ameliorated, and while a diagnosis is positively essential for perfect therapy, fortunately or unfortunately, it is not always necessary for an amelioration of his symptoms or even, sometimes, for his cure. Consequently, many times he is as successfully treated, from his standpoint, by a quack or an ignorant practitioner as he is by a scientific physician. It is also unfortunately true that many a scientific physician, owing to his medical training and to some of the best text-books on the practice of medicine, delays the amelioration of the patient's symptoms until slow laboratorial processes have made a definite, positive diagnosis. Such diagnosis having been made, he is content to treat the etiologic cause of the condition, forgetting even the pain the patient is suffering, and thus his patient is often driven to quackery or dogmas or "patent medicines," and often improves from such treatment.

It should be taught, not only in the therapeutic departments, but in the internal medicine departments of every medical school, and no text-book on practice should be considered complete unless it teaches that the

uncomfortable, disagreeable and non-eliminative symptoms of a disease must be attended to and therapeutically managed while the disease itself is being scientifically combated. It would be as unjust to accuse me of advocating the symptomatic treatment of disease, as it would be untrue, but each and every clinician well knows that it is the consultant only who can ignore the treatment of troublesome symptoms. All successful quackeries succeed because of their ability to relieve symptoms or to cause such mental suggestion as will relieve overtaxed minds, and many a loyal patient is driven to employ quackery by scientific neglect.

While I am supposed to speak on the subject of drugs, I must declare that the administration of drugs is only a small part of the management of disease, and the management of disease is the highest pinnacle of the medical curriculum. It presupposes all the physiologic, chemical, anatomic, pathologic, bacteriologic and pharmacologic knowledge that can be obtained. This knowledge is then brought to bear on the management of the disease, which means necessary hygienic changes, perhaps a change of climate, an arrangement of the food and drink, physical treatment if indicated, such mental treatment as is advisable, such medicinal treatment as is needed, and necessary operative procedures, and, altogether, this is therapeutics. The subject of therapeutics is, then, the broadest and the hardest one for the medical student to grasp, and it is safe to say that the young graduate in medicine, even after a hospital course, is less prepared in the bedside and office management of disease than in any other branch of his art.

We all approve of the growth of the healthy teaching of the ability of the mind to overcome many nervous disorders and prevent the misinterpretation of slight physical disturbances, which teaching was begun at the Immanuel Church, in Boston. It is too soon to assert that the men who are teaching this therapeutic branch of medicine will not go too far and be so impressed by their success in apparently pathologic conditions as to become mentally unbalanced, and believe that wonders can be done by the "mind cure." Psychotherapeutic instruction should be given in every medical school, and I believe that a great deal of good can be done by mental instruction of the laity by educated and able ministers of the gospel; still I think they would be better prepared to do such teaching and would teach it well-balanced if they had some instruction in pathology. In other words, it ought to be considered a prerequisite that before a minister should teach the power of the mind over the body he should have taken a course in pathology. He will then recognize his limitations and can teach good mental sense to his audiences.

As the scientific practitioners are just passing out of the age of drug annihilation and a belief that because a disease can not be cured by specifics the patient should

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receive no treatment, we find the necessity for a better understanding of pharmacology. Just as a mental therapist will be cured of absurd prognoses and beliefs by the study of pathology, so does a thorough knowledge of the pharmacologic action of drugs prevent a doubt of their efficiency. Hence it is absolutely necessary for every medical school to inaugurate laboratory pharmacologic instruction. The medical graduate after such a course will demand pure, active drugs, and will use them rationally, and the pharmaceutical firms must vie with each other to furnish pure, active preparations of these drugs. If these firms can improve on the National Formulary preparations let such be incorporated into the National Formulary, which should be reissued at least every five years. This is not to advise the use of ready-prepared combinations in preference to a well worked out prescription to meet the individual case, but is advised to prevent the necessity of ordering pharmaceutical preparations whose exact ingredients we do not know.

I believe that it is time to repudiate the assertion that Nature is a good physician or a good surgeon. Not that I wish to controvert the belief of ancient, medieval and modern medicine, as evidenced by the various Greek, Arabian, Latin, German and English terms, that the human organism is able to combat poisons and infections and to heal lesions. But we have now come to the time when it should be recognized that we not only must not obstruct in the human body the processes of eradication of an infection which natural metabolism has established, but that it is just as futile and just as absurd not to aid in combating an acute or chronic disease with the proper drugs, all physical and hygienic methods having been instituted, as it is to allow pus to burrow and cause serious consequences instead of properly evacuating it. In other words, natural processes are fighting just as much to establish the condition or disease or infection that is abnormal to the part where it is, as are the natural processes of the human body endeavoring to eradicate these foreigners who have invaded their stronghold. Who for one moment can think that the cancer cell is not attending to its natural function of multiplying and eating into healthy tissue, and who would allow to-day such a process to go untreated? Who would allow the diphtheria germ and its toxins to have full sway without the use of its opponent, antitoxin? It is just as absurd to declare that pneumonia and typhoid fever need no medication as it would be to declare that diphtheria needs no antitoxin and no antiseptic gargles.

With this preamble let us return to the pharmacologic activities and the therapeutic uses of drugs, and turn to the Pharmacopeia as offering active drugs of standard strengths in efficient and suitable preparations. And the first question that we must ask is, why so much that is useless surrounds the few that are so useful? Is there any practice of medicine up-to-date, is there any book on gynecology up-to-date, is there any book on surgery up-to-date that describes every old, antedated, ancient and useless method of treatment, together with the modern proper treatment? You must answer "No." Consequently why in an associated branch of medicine, and the most necessary branch of all, do we have a book called "standard" that is loaded with antedated and almost antediluvian mixtures? Let those to whom we give authority to prepare the United States Pharmacopeia offer one that is small, compact, has only the best

preparations of the best drugs, and does not keep a drug out of the Pharmacopeia rather than recognize its ability to do good for the sake of some old-fashioned fear that it may have a patented name. Then let the state boards of health frequently analyze the drugs found in the open market to see that they come up to the standard of strength. Then, and then only, can we take official drugs and have exact therapeutic possibilities from them.

While advising simplicity in prescription writing, it can not be gainsaid that the art of combining drugs or of rendering a drug less disagreeable should be taught in the medical schools. Even with this laudable object in view, however, it is not justifiable for a physician so to belittle his profession and forget rationality in his treatment of a patient, to say nothing of the enormous graft which he hands the proprietary firms from the pockets of his patients, by ordering proprietary mixtures. I do not believe that the physician who orders such preparations realizes the positive harm he often does his patients, in some instances almost amounting to criminal negligence. I take it for granted that no one in this audience deems it reputable, or scientific, or just to patients to prescribe preparations the ingredients of which are not known. This is little less than malpractice. The patient pays for our opinion. If we prescribe a nostrum, it is fraud, as he could prescribe his own nostrum without paying our fee. He seeks known advice and knowledge, and we have cheated him by giving him unknown mixtures or ignorance. Hence it is fraud, and I am not sure but that a court would award him damages should he make complaint. With the aid of an honest druggist, by means of our Pharmacopeia and National Formulary, we hardly need a single proprietary mixture in the medicinal treatment of disease.

Few physicians know the range and compass of these books. They contain sixty cerates, ointments, salves, mulls, petroleums, and collodions. Can any one doubt that with this number of greases a good sedative or stimulant ointment could not be selected, or any combination made that was desired? They also offer seventy-seven oils, waters, and liniments for external use; certainly all the rubs that there is room for on the human body. There are at least twenty-two simple and antiseptic dusting powders; certainly enough. So much for external remedies.

The Pharmacopeia contains 2 vinegars, 17 waters, 3 elixirs, 6 emulsions, 28 extracts, 85 fluid extracts, 2 glycerites for internal use, about 20 liquors or solutions for internal use, 4 mixtures, 6 oleoresins, 45 oils, 14 pills, 9 powders, 4 resins, 20 spirits, 29 syrups, 64 tinctures, 9 troches, and 10 wines. While the National Formulary contains 1 vinegar, 64 elixirs, 9 emulsions, 2 extracts, 36 fluid extracts, 4 glycerites, more than 38 solutions, 18 mixtures, 21 pills, 19 powders, 3 spirits, 37 syrups, 27 tinctures, and 10 wines. Enough, ye gods, to leave the proprietary manufacturers to seek other means of support, and to make worse any poor patient that comes in close relationship to them. Do not for one moment think that I advocate using this heterogeneous mass of preparations, but I do say that every physician can, with the aid of his druggist, select the few formulas that he will use that will be as elegant and pleasant methods of giving drugs as proprietary preparations, and more, will represent guaranteed doses of the ingredients.

While advising the use of some of the preparations above named, I do not wish to be understood as claiming that it is not better to combine one's own prescription better to fit the individual case, but these official preparations preclude the necessity for using proprietaries.

Now, what are the bugaboos that make the physician reach for the proprietary preparations? First tonics: The first drug to consider is iron, and the proprietary preparations of organic iron are legion. There is not a single good, substantiated reason why we should order a single one of them, and certainly the profit ordered by physicians to be paid by trusting patients to foreign manufacturers is unjustifiable. No iron will act any better than an inorganic iron. If there is an idiosyncrasy against it, smaller doses should be used, and, by the way, ordinarily too large doses of iron are given. The reduced iron, the mass of carbonated iron, the pill of the carbonate of iron, the saccharated oxid of iron (*Eisenzucker*) in tablets for children, the tincture of the chlorid of iron, the syrup of the iodid of iron, with ten elixirs in the U. S. P. and N. F. containing iron, and any number of other iron salts can do all in the iron line that it is possible to do. I defy any "patented" iron to do therapeutically what I can not do with one of the five first mentioned iron preparations.

Now as to beef: Is there any beef preparation made, in recommended daily dose, that can equal a little piece of steak, a little scraped beef pâté, a little chopped raw beef, or expressed beef serum? No.

As to other albuminoids and protein foods, a little milk, a little white of egg, a little oatmeal gruel, and many other simple nutriment preclude the necessity for their use, except in rare instances.

We do not need a "patented" bitter tonic. We have the compound tincture of gentian, the compound tincture of cinchona, and the tincture of nux vomica, in one to five drop doses, and we need for bitter tonic purposes no other.

As to stimulants: It is not necessary to pay for a poor "patented" sherry. We had much better order whiskey, brandy, sherry, ale, or champagne, as needed, and the patient will save money and receive better stimulation.

As to digestants: Very rarely is pepsin needed, and pancreatin is of but little value in the stomach. If they are needed, the Pharmacopeia and National Formulary offer several preparations for a choice. Even pre-digesting powders are furnished by these official books. In other words, the long list of proprietary digestants is not needed.

We do not need the fat and oil emulsion proprietary preparations. The oil emulsions of the U. S. P. and N. F. are sufficient, if we desire them. Straight doses of cod-liver oil are better, and cream, butter and olive oil surpass any fat emulsion. We need no proprietary suspensions of oils, as the U. S. P. and N. F. offer all that are needed from turpentine to castor oil.

Tasteless quinins are mostly useless, and the various methods at our disposal of giving quinin allow us to surmount all difficulties of age and taste and we need no proprietary help other than the free-to-all elegance of the elastic capsule.

We do not need the legion of "patented" preparations of glycerophosphates and lecithin, as the National Formulary furnishes an elixir of glycerophosphates with lime and soda.

Concerning the long list of antipyretic preparations, cough mixtures, hypnotics, and nerve sedatives, there is but one thing to say, viz., that any physician who thinks he is unable to write the prescription needed for the individual who requires such medication should set to work to instruct himself in the method of writing for such drugs and arranging such pharmacally and pharmacologically correct combinations as will suit the needs of his patients. A long list of antipyretic coal-tar drugs is not needed. The official antipyrin, acetanilid, and acetphenetidinum (phenacetin) are all that need to be used. Caffein, camphor, soda, salol, and any other drug can be combined with them, if desired. As to cough mixtures: what codein, ipecac, ammonium chlorid, potassium iodid, terpin hydrate, and syrup of hypophosphite can not do, can not be done at all with drugs. Any or all of these should be given with absolute omission of the ancient, nasty, sweet and nauseating syrups. There are no combinations of hypnotics that can not be better combined by ourselves, and for much less cost to our patients.

None of this should prevent a physician from trying a new drug if he thinks it is an honest one, because we should be ever ready to make use of a valuable discovery, but never to further a fraud. Such a new drug should be ordered straight or used only in our own combination, and never in a ready-made mixture offered by the firm interested.

Nerve sedatives for hysteria and allied conditions are either useless and act by suggestion, or they carry the danger of forming a drug habit. We should write for our own patients our own prescriptions. There are various phosphorus preparations official and National Formulary, and if one thinks sumbul valuable, let him try it alone and see.

Now the various uric acid and gout curing preparations, and here fraud and credulity are rampant. The régime and extra water abolishes symptoms, if anything is done at all, and of all waters distilled water is the best. I do not intend to say that a sojourn at a water health resort is not of first-class advantage, because it is. A change of climate, a change of water, a change of food (cooked differently, hence often chemically different), a change of life and freedom from worry, and a change of exercise are the factors that do good, and not urate solvents. This is not to declare that minute doses of some chemical ingredient in certain waters, taken for a long time, may not modify metabolism; this must be acknowledged, but it does not alter the absolute falsity of the lithic acid and urate solvent promises, all of which promises are decidedly "gouty."

Next we come to the effervescing preparations, and here we should lean on the druggist. A large number of effervescing preparations are official, but any pet combination of any physician can be prepared by his druggist to effervesce at a cost much less than the same in proprietary bottles that are blazed to show the laity that they are proprietary, and unless the druggist is particularly careful, carry a lot of quack literature into the family, which is read with avidity, "as the doctor ordered it," all for a price which furnishes a splendid profit to the concerns making these preparations, but hardly enough profit to the druggist for shelving the same.

As to disinfectants: Again the Pharmacopeia and National Formulary come to meet our needs with mercuric chlorid, phenol, peroxid of hydrogen, formal-

dehyd solution, potassium permanganate, chlorinated lime, and various solutions; and the druggist is ever ready to make in large quantity, or strong for dilution, any disinfectant that we may select. Also, he can readily make any alkaline mouth wash that we may elect, if the two that are official are not satisfactory.

Now, why can we not acquire the art of writing our own prescriptions? It is only a question of a book or two, a little study, careful selection of official preparations, a few heart to heart talks with a trusted druggist, and the thing is an accomplished fact.

ABSTRACT OF DISCUSSION.

DR. J. N. McCORMACK, Bowling Green, Ky.: The chief difficulty about all this matter is that scientific prescription writing has not been taught in our medical schools. It was not done in my day; it seems no better done now. Even with the leaders of the profession composing the faculties, the course of instruction has not been practical in most medical schools, and as a class they have constituted the least progressive element in the profession. I consider it more important to teach a student practical pharmacology and prescription-writing: the evils of commissions, divisions of fees, contract and lodge practice; how he may legitimately obtain practice, conduct his business and earn a living; the importance of membership and attendance in medical societies, and about other practical problems which will soon inevitably confront him, than to give extended courses in embryology and similar interesting but more theoretical branches. We consider this so important in Kentucky that our board will recognize no school after this year which does not provide a course in medical economics, which embraces most of these matters. I gave notice to the House of Delegates in my annual report that I intended to take this up systematically with every state board of medical examiners and student body in the country. It is my intention to urge students to avoid schools which have not the enterprise to teach such a course, and to urge boards to refuse them recognition. It is due every student that he be molded and shaped right in these matters before he is baked, even if some of the frills of modern medical education have to be omitted to do so. This will be only a benefit to future students. For those already in practice it is proposed to give blackboard exercises and other object-lesson methods a prominent place in the postgraduate course for county societies.

DR. TORALD SOLLMANN, Cleveland, Ohio: The teaching of *materia medica* has been justly blamed for this ignorance. On the other hand, how much good will it do to teach prescription-writing to men if they are taught to prescribe nothing in the hospitals excepting by numbers? It is important that the student should not be led to prescribe number so-and-so, but to write the formula.

DR. J. N. McCORMACK, Bowling Green, Ky.: Such teaching is given because many college professors do not understand these things themselves, and do not see their importance either in hospital practice or in the teaching course. It is a part of the same defective system and that has always cursed medical education in the United States. The time has come for reform.

DR. F. E. STEWART, Philadelphia: In this country are several thousand graduates in pharmacy who are educated, trained, and licensed to practice this art. On the other hand, we have a large number of persons who are invading the pharmaceutical field without education, training, or license. As stated by Dr. George M. Gould, "any person except a physician or pharmacist can practice medicine and pharmacy in the United States without a license." All that such persons have to do is to call themselves manufacturing pharmacists or chemists and practice at wholesale. The U. S. P. and N. F. propaganda should draw a clear line of demarcation between qualified and unqualified practitioners. It is not a question whether products are manufactured on a small or on a large scale, but whether the manufacturing of pharmaceutical preparations shall be conducted by qualified practitioners, and in conformity

with standards jointly adopted by the medical and pharmaceutical professions. The present tendency is to reduce all pharmacists to the level of the lowest druggist engaged in the business. To obviate this tendency, physicians should specify the pharmacists to whom their prescriptions should be taken. Without this specification patients are liable to take their prescriptions to druggists who furnish medicines at the cheapest price without regard to quality. That is the natural tendency, and it will continue unless physicians do something more than specify U. S. P. and N. F. on their prescriptions. Physicians who believe that it is not ethical for physicians to specify the pharmacist are not acquainted with the principles of medical ethics of the American Medical Association. To remove the difficulty in the way of such specification, pharmaceutical organizations should limit their membership to professional pharmacists and place lists of their members in the hands of physicians so that they may exercise proper discrimination in selecting pharmacists to compound their prescriptions. When the Pharmacopeia requires that each 100 c.c. of finished fluidextract or tincture shall contain a definite stated amount of active principle, that does not mean that the pharmacist shall assume that his preparation is standardized because made from a standardized drug. It depends on the skill of the pharmacist or manufacturer conducting the operation of percolation whether or not 100 c.c. of the finished product contain the required amount of active principle. No pharmacist conducting the operation of percolation is in position to state that his finished product corresponds to the standard of the Pharmacopeia without assaying the finished product. No pharmacist can carry on his shelves preparations under pharmacopeial names but not conforming to pharmacopeial standards without rendering himself liable to the penalties of the various food and drug laws. If the pharmacist is not manufacturing on a sufficiently large scale to standardize his finished products he should buy them from manufacturers whose products conform to the requirements of pharmacopeial standards. The pharmacist can, by visiting the laboratories of the manufacturers, make sure that these standards are being maintained. The pharmaceutical societies should appoint committees to investigate the matter. Physicians, pharmacists and pharmacologic manufacturers should cooperate in promoting progress in pharmacology. They can do so in no better way than by joining this Section and taking part in the propaganda for elevating the standards of pharmacologic practice now being carried on jointly by the American Medical Association and the American Pharmaceutical Association through this Section in conjunction with the Council on Pharmacy and Chemistry of the American Medical Association.

ALEXANDER S. VON MANSFELDE, Ashland, Neb.: Not long ago a county society set about improving the medical profession. The members resolved that they would not order any more proprietary medicines and would prescribe the preparations of the United States Pharmacopeia. They were somewhat afraid of one another, and they signed their names. The next day they started out in good faith to prescribe the preparations of the U. S. Pharmacopeia. What happened? The druggists of that city of 10,000 inhabitants almost burned out the telephones and the telegraph wires to get preparations of the Pharmacopeia so that they could prepare the prescriptions. What is the comment on that? Not that the men who live in that beautiful little city have no brains; not that the teaching which they received in the schools was imperfect. It was mental laziness on the part of these physicians, that caused the disuse of the Pharmacopeia. My good friend from Bowling Green is going to tell them to mend their ways and to educate the young men not to do as the older ones have done. The young minds are going to take care of themselves, I warrant you. The young men wonder why we were ever permitted to practice medicine! You men with gray hair, why don't you mend *your* ways? I have been a teacher in a college off and on for thirty years, and men who were my students know more in a minute than I know in a year! Go home, you men here, go to your several counties and do what we have done

in our county. We warned the members of our county society that if they did not quit prescribing proprietary medicines and go back to the Pharmacopeia preparations their names would be dropped; they would go out of the county society flying, and ere long, too; during my life time possibly.

DR. ROBERT HATCHER, New York: I wish to corroborate what Dr. Sollmann said about hospitals contributing to this condition. Every man who goes through Bellevue Hospital, in New York, remembers one mixture there, universally called the "early bird." The name is so suggestive that the student never forgets it. There are hosts of these remedies constantly used; some go by numbers, some by catchy names. I have never yet seen a student who had used the "early bird" who knew what was in it. When asked what it is he says, "I don't know; the pharmacist knows."

DR. J. N. JENNE, Burlington, Vt.: Why do the teachers of these subjects in the medical schools give instruction on other than pharmacopeial remedies? It is because they know that the student who goes out with no knowledge of the extra-pharmacopeial remedies and preparations would stand little chance of success before state boards. The teacher is no longer free to give instruction in the use of such remedies as he may esteem essential to the student, in order to make him a good therapist, but he is called on to prepare the student to pass a successful examination before any and all of these boards, unfortunately not of one mind in this matter.

DR. EMANUEL MANKO, Kansas City, Mo.: I was a pharmacist in Philadelphia in 1895; I was graduated at the Philadelphia College of Pharmacy. During that time I had charge of the prescription department of Bullock and Crenshaw. Physicians were prescribing a preparation known as antifebrin, known to-day as acetanilid and worth to the manufacturer about three cents an ounce. They charged at the time \$1 an ounce. You can see what a tremendous profit these men make. Aubergier's syrup of lacuarium was supposed to be free from morphin. It is acknowledged, since the Food and Drugs Act came into force, that it contains morphin. Another evil that has crept into the drug business is the sale of liquor. There are druggists wholly unfit to be druggists largely on that account, and I blame that more than anything else for the retrogression of the drug business.

DR. J. M. PATON, Chicago: As a teacher of medicine for about twenty-five years and as a hospital man for nearly that length of time, I have had a good deal of interest in this question under discussion. There are two phases of it which are of immediate interest to us as physicians: how to get at the root of the trouble, and how to do away with the practice of prescribing these proprietary remedies. I heartily endorse what Dr. McCormack has said about the root of the difficulty being in the teaching of medicine. The present-day graduate is more deficient in his knowledge of prescribing than in any other one branch of his medical education. When you examine candidates for hospital internship have them write a most erudite paper on the technicalities of diagnosis; then have them try to put 20 drops of tincture of digitalis in a capsule, and you will be convinced that they are not fit to prescribe for the patient on whom they have already made a diagnosis. Most of these students have no knowledge of the physical properties of drugs; they do not know what a given mass would look like if made up and into what size capsule it would go. At the same time they can detail the physiologic effects and incompatibilities of the drugs they are using. It lies with the department of therapeutics largely, in the curriculum; secondarily with the department of clinical medicine to correct these faults. I believe that the medical schools should be required to give a definite course in pharmacology and prescribing. Their students should be required to pass just as strict an examination in these branches as they do in clinical medicine, in the various departments of diagnosis, etc. I also endorse what Dr. McCormack has said regarding a propaganda through the state societies. I believe that if they would energetically demand that all candidates for state certificates be required to demonstrate their ability along this

line much of this trouble would be avoided. I believe that the efforts of the Association are already bearing fruit in preventing the prescribing of proprietary mixtures. A well known druggist in this city told me that he was not putting up more than one-fifth or one-sixth as many prescriptions for proprietary mixtures in the last six or eight months as he did four or five years ago. He told me, too, that whereas he used to buy a certain patent preparation by the great gross he now buys a quarter of a dozen at a time. He attributed this largely to the propaganda of the American Medical Association against the prescribing of proprietary mixtures and in educating the public against the use of proprietary medicines.

DR. DANIEL M. HOYT, Philadelphia: The official names of National Formulary preparations seem to me unnecessarily complicated and difficult to remember. These preparations were discussed at one of our Philadelphia meetings recently. I heard only one physician use the National Formulary names. The older proprietary names were usually substituted. It is now often difficult to obtain the preparations when they are prescribed. The other day I prescribed "Fluidextractum Rhamni Purshianæ Alkalinum N.F." The prescription went to New York City. The patient came back to me, stating that the druggist had said that he had sent all over the city for the preparation and finally had to put it up himself. I believe the prescribing of official preparations to be important because it creates a demand for preparations having the standard of the Pharmacopeia and National Formulary, rather than of any manufacturing chemist.

DR. ARTHUR T. MCCORMACK, Bowling Green, Ky.: After the first publication of the remarkable findings of the Council on Pharmacy—findings at once disgraceful to our profession and of the greatest danger to the public—this whole matter appealed to the organized doctors of Kentucky as a question of the first practical importance, and as a result of our work we now have a large part of our 4,100 medical men actually doing the things that you are talking about. It would be well if those present who need none of this propaganda—to whom even the splendid paper of Dr. Osborne is no revelation—could go back home and through their own and adjacent county societies multiply it so that its influence could reach the stay-at-homes, so as to get both druggists and doctors so interested in these matters that they will demand enough information to enable them to understand them. Most of the men using the dishonest mixtures—proprietary or not—of unknown composition, are honest men, but ignorant. If they can but be made to understand the danger of their ignorance to their patients we shall some time have only the right sort of doctors in the United States.

All this applies equally to the druggists. If our profession but demands it, we will no longer have venereal diseases treated by the class of men who are unable to compound the National Formulary preparations. These twin disgraces to the drug trade can be gotten rid of only by education of the druggists by the doctors. The man who sells alcohol, or morphin, or cocain over his counters to women and children who are ignorant alike of the contents of his mixture and of the ailments from which they suffer, is a far worse man than the saloon-keeper who sells pure liquor or pure beer to men who know what they want. If the doctors understand this question they can educate the druggist if they will. I have little respect for the influence of the physician who writes a prescription if he can not send his patient to an honest, competent pharmacist to have it filled. In Bowling Green to-day—and in most Kentucky towns—most of the doctors are so controlling their prescriptions that competent men fill them, and if the right sort of druggist is not in their county they purchase and dispense their own drugs, as they should. The doctors are responsible for the whole condition. Good men say that they can not keep their patients from going to druggists they know to be dishonest "because that druggist is one of my patients." One has no more right to send a patient to such a druggist than to send a friend to an insolvent bank. Either is a breach of

trust. In the name of our state association our president sent a personal letter to each of the 4,100 registered physicians, telling him what the Council on Pharmacy was doing. Our councilors carried the message to all who could or would hear—and some were deaf in their proprietary ear too. To each one was sent a postal card, which, when signed, pledged his word of honor as a gentleman and physician that he would no longer use any medicinal preparation of whose contents he was not informed by the highly scientific and honorable body created by the American Medical Association, the Council on Pharmacy, unless it was an official preparation. There are to-day only about 300 doctors in Kentucky who can write a prescription for the nostrums without the Lord at least knowing that they have violated a pledge of honor. Besides this, we have pushed the excellent Manual of the Pharmacopeia, prepared by THE JOURNAL, until it is in the pockets of four-fifths of the doctors of Kentucky as a constant ready reference, so that as they ride from patient to patient they may have an opportunity to consult its pages and learn now some of the things about pharmacology and materia medica which the teachers in their colleges failed to put before them at the proper time. Besides, the "New and Nonofficial Remedies" and other publications of the Council have been placed in the hands of our members, and our State Board of Health has mailed 12,000 copies of the "Great American Fraud" reprints from Collier's to prominent laymen all over the state. I have heard men say: "We think that the druggists should furnish us these things." The druggist ought to furnish us with nothing except what we pay for!

DR. C. S. N. HALLBERG, Chicago, Ill.: Acting on the precedent set by the Philadelphia Branch of the American Pharmaceutical Association at the meeting in Atlantic City a year ago, the Chicago Branch of the American Pharmaceutical Association had a display of preparations. These preparations are made mostly by students, and I dare say that if you compare them with any other manufacturers' exhibits in the building you will find that they compare favorably. So that gives the lie to the charge often made by the travelling agents that pharmacists can not prepare these preparations. They can if they want to, if fairly competent, honest and careful. At the meeting in Portland three years ago a committee of reference and resolutions reported resolutions to this Section in which the statement was made that "the nomenclature is the crux of the proprietary medicine situation." As long as physicians prescribe medicines by their euphonious names they are simply playing for the "patent medicine" men. They should have remembered to write, for example, dimethyl-phenyl-iso-pyrazolon instead of the patent name antipyrin, and instead of urotropin they should write hexamethylenamin. If they can remember the name of the diseases described by Dr. Terry here yesterday (trypanosomiasis and spirillosis) there is no reason why they should find difficulty in writing hexamethylenamin or dimethyl-phenyl-iso-pyrazolon. There is more self-medication created by the physician writing the proprietary names than by any other method, and the physician must realize that if he wants to have the great convenience of writing for ready prepared medicine an elixir or synthetic chemical, he must sacrifice himself sufficiently so as to write the full name, not the patent name. Otherwise, he is taking great chances because these proprietary pharmaceuticals or synthetics are just as bad for the public as Pierce's or Peruna. There is no distinction between them in the wholesale drug list, they all come in the same alphabetic order.

DR. OLIVER T. OSBORNE, New Haven, Conn.: Let the next Committee on Revision of the Pharmacopeia put official abbreviations after those long names and the matter is settled. As a teacher of materia medica, pharmacology and therapeutics, I find that it is difficult to compel students to write the long pharmacopeial names. Our students at Yale begin to study materia medica in the second year, and study pharmacology all through the third year. At the end of the third they write better prescriptions than at the end of the fourth, and at the end of the fourth they write better prescriptions than after they get out of the hospital. That is no fault of the colleges. It is up to the dispensaries and hospitals to finish

what we aim to teach, viz., the individualizing of all patients and not prescribing by numbers.

I investigated the marks on materia medica in the state examinations. I found that in Connecticut the marks were low. It seemed a reflection on me and my department that the lowest averages of any of the examinations were in materia medica, and the young medical men took the examinations after two years of hospital work. I investigated some of the other states and found the same thing to be true, and then I tabulated for fifteen years the different colleges and the examination marks in materia medica and pharmacology in Connecticut. I won't say what I found out, but I did not feel as badly as I did before. Some of our best colleges in the United States had marks in materia medica away down below our second grade colleges, showing there had been in these colleges too little time devoted to the study of materia medica and therapeutics. Our students in the second year have a course of pharmacy demonstrations. Between the end of the second year and the following Christmas of third year every individual man spends fifty hours in the prescription department of a city drug store, under the instruction of the assistant demonstrator of pharmacy. The student prepares a certain series of pharmacopeial preparations and sees the prescriptions that come into the store. These prescriptions are copied into notebooks and the notebooks are handed to me. The physicians' names are always omitted. The greatest pleasure I have is in marking off the many proprietaries used and correcting positive errors. This is a demonstration to students that is hard to beat.

DR. M. H. FUSSELL, Philadelphia: There is at least one large dispensary in this country which sees over six thousand patients a year, in which the prescriptions are not given by number and are not given by titles of ready-made prescriptions.

ARSENIC IN DISEASES OF THE SKIN; WITH OBSERVATIONS ON SODIUM CACODYLATE AND ATOXYL.*

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The history of arsenic as a remedy in diseases of the skin practically begins with the opening of the last century. It is true that scattered references to its use in cutaneous eruptions of various kinds may be found in medical literature long prior to this period, but its introduction into dermatologic therapeutics was due almost entirely to the writings of English physicians in the early years of the nineteenth century. One of the earliest writers to recommend arsenic in diseases of the skin was Dr. Thomas Girdlestone, who, in a letter published in the *Medical and Physical Journal* of London in 1806 reported "some hundreds of cures of lepra, lichen, prurigo, psoriasis, etc." Its use soon spread to the continent, especially to France, where it speedily became a favorite remedy in every kind of cutaneous affection. In France Rayer found that arsenical preparations were especially useful in certain chronic eczemas of the scrotum, anus and labia, but, strange to say, he regarded them as sometimes dangerous in bullous affections, a class of diseases in which, according to later writers, arsenic displays most strikingly its remedial powers. He also found them sometimes required in various forms of lichen, but thought they were often abused in psoriasis, although likewise sometimes used with success. While this author regarded arsenic as of "incontestable use" in various forms of cutaneous disease, he was by no means so enthusiastic as some of

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