depressant than the veronal itself, and it seems the best of these preparations to use. If this is the best, then we need none of the second- and third-rate drugs of this class in the Pharmacopeia.

There seems to be no reason for the many bromids. The sodium bromid is the best; potassium bromid is distinctly more disagreeable; strontium bromid is expensive, and the reason of its lack of disagreeable stomach-effects is that it is absorbed less rapidly; and zinc bromid is unnecessary. This again simplifies the Pharmacopeia.

Of all the iodids the sodium iodid seems the best. Potassium is always depressant; sodium is rarely so. Therefore, other things being equal, where the drug must be given for a considerable length of time, the sodium salt is the one which should be preferred. All the various new iodids (iodids without their sting) put on the market only mean a smaller dose of iodid; that is all. If the dose administered of the straight sodium iodid is diminished to what the patient would absorb from one of the proprietary preparations, the unpleasant symptoms will be found not to be caused. The sodium iodid should be given either in water or camphor water, or a saturated solution may be given in milk or water.

Of the colchicum preparations we need only the best liquid, which is probably the wine of the root, and the alkaloid, colchicin. We certainly do not need the number of preparations of it in the Pharmacopeia.

Of the very many preparations of mercury in the Pharmacopeia, at least half could be abolished. I will not designate which half or which third I would deem most valuable, because the differences in opinion are so very great I would simply start an unprofitable discussion. But there is no difference in mercurial action. It is only a question of dose and which preparations, and a few, as soon as one learned how to use them, would have the same action as have the many.

Of all the salicylic acid preparations offered, it is simply a question of regulation of the dose. If any of the proprietaries furnish salicylic acid without its sting, this means that the substance is absorbed very slowly, and the dose given is very much smaller. If the dose of the sodium salicylate is made smaller, the absence of unpleasant symptoms would be the same. If, on the other hand, in rheumatism it is necessary to push a salicylic acid preparation, these preparations that are said to not cause symptoms will cause symptoms. It is only a question of dose.

I am not a drug nihilist. I believe thoroughly in the activity of drugs and thoroughly in their value, but I deplore the profession being fooled by promoters of so-called new drugs and new synthetics, when, if the reliable Pharmacopeial drug is properly used, it is perfectly satisfactory.

I do not for one moment wish it understood that I do not believe in looking into and investigating every new single drug (not mixture) that is offered. Every little while we find something that is of great value, such as hexamethylenamin, phenolphthalein, veronal, salvarsan, perhaps the new synthetic suprarenal principle; but I wish to stimulate a criticism, an honest criticism, of every drug or preparation that is presented. If it is a mixture, we should analyze the formula and draw a line through every ingredient that is of no value, and see what is left. It is many times the very drug of the Pharmacopeia that we have all been long using. The rest are veils to beguile our discovery that the only active drug of the mixture is such a simple, common, every-day affair.

THE WORK OF THE COMMITTEE ON USEFUL REMEDIES *

M. I. WILBERT

Secretary of the Committee
WASHINGTON, D. C.

The Council on Pharmacy and Chemistry of the American Medical Association has been repeatedly though erroneously criticized for being destructive rather than constructive in its work, and not a few medical practitioners have pointed out the difficulty of consistently following the efforts that are being made to improve on the conditions now existing in relation to the use of drugs as aids in the prevention or the treatment of disease.

The difficulties that would be encountered by a physician in active practice in any attempt to differentiate between useful and useless articles will suggest themselves to any one who will take the time to look over one or more of the current price-lists of drugs and proprietary medicines. The many thousands of meaningless names found in such a list are disconcerting to even the best-informed medical practitioner, and to one who can give only a limited amount of time and thought to the subject they must be quite as confusing and meaningless as the names of so-called patent medicines are to the ordinary layman; since this is so it need not surprise us that the physician absorbs much of his incentive to use a given drug or preparation in much the same way that the layman does—from the say-so of others in advertisements or the so-called standard works on the subject of materia medica.

The present-day status of the use of medicines has been designated as consisting of series of vicious circles: Patent medicines are used by the laity because they are advertised by manufacturers, and they are advertised by manufacturers because they are used by the laity. The closely related proprietary medicines are prescribed by physicians because they are advertised in medical journals, and they are advertised in medical journals because this leads to their being prescribed by physicians. Official remedies are official because they are endorsed by text-books, and are endorsed by text-books because they are official.

Up to the present time little or no attempt has been made to classify systematically the more useful or more promising medicaments. Even the teachers of materia medica in medical schools are helpless in this respect because of the fact that the several state medical examining and licensing boards are likely to ask questions on all sorts and kinds of medicaments, and teachers of materia medica of necessity feel that they must teach at least something about all of the different official articles and many of the more widely advertised non-official preparations.

In the past the Council has endeavored to exercise its influence with the revisers of the Pharmacopeia and the National Formulary and has striven to induce the compilers of these books to restrict their scope to articles of established value. These efforts have, however, been futile, largely because of the fact that both the U. S. P. and N. F. are accepted by law as the standards for the articles which they contain, and it is felt that physicians who use obsolete or inert drugs have an equal right to

* Read in the Symposium on the Desirability of a More Restricted Materia Medica in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

standard remedies as physicians who confine themselves to articles of known and recognized value.

With a view of arousing the interest of medical practitioners in the subject the Council more than a year ago appointed a committee to compile an authoritative list of the more important medicaments and then to submit this list as a basis for the teaching of materia medica in medical schools and for the examinations on materia medica subjects by state examining and licensing boards, so as to foster the routine and more extended use of these articles by practicing physicians generally.

The possible restriction of materia medica teaching to articles of acknowledged value has been discussed on various occasions, and several attempts have been made to outline a reliable materia medica list. One of the more recent attempts in this connection was made by the Council on Medical Education of the American Medical Association several years ago. This list, somewhat augmented, was selected by the Committee on Useful Remedies as the basis for its work, and the resulting list then sent to the teachers of pharmacology and therapeutics in medical schools and colleges, the secretaries of state medical examining and licensing boards, members of state boards whose addresses were furnished by the secretary and to a number of general practitioners who had replied to previous inquiries. On the basis of the replies obtained, a second list was compiled and discussed in *THE JOURNAL* for Dec. 9, 1911, with the request that members of the American Medical Association who might be interested send in their opinions regarding it. The list thus secured was reviewed by the members of the council present at the annual meeting in February, 1912, and is now ready to be offered tentatively in the form of a manual for ready reference, with the request that medical practitioners generally make such suggestions for additions and deletions as would tend to make the final list fully representative of the best in the materia medica of American medicine.

Eventually, it is expected to publish a critical review of the actions and uses of the several drugs included in the list, so as to present in as complete a form as practicable the present status of our knowledge regarding the drugs and preparations that are discussed in the book.

The preparation of such a book will necessarily consume considerable time, and the proposed tentative publication of a manual is for the twofold purpose of keeping the subject before American medical men and of securing their cooperation in the final compilation and publication of the more comprehensive work.

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ABSTRACT OF DISCUSSION

ON PAPERS OF MESSRS. PUCKNER AND HYNSON, AND DRs. LEFEVRE, OSBORNE AND WILBERT

DR. F. E. STEWART, Philadelphia: Dr. Osborne for a long time has been eliminating from the Pharmacopeia. Fortunately, he has still left a small number of drugs to be used by the revision committee. I am in favor of much that he has said. It would be a great advantage to those of us who are teaching materia medica if we could limit the Pharmacopeia to really useful drugs, but, unfortunately, there is such a difference of opinion among therapeutists that it would be difficult to accomplish.

The next question is that of introducing new materia medica products by advertising. All will admit that the demand created by advertising has proved largely fictitious and ephemeral. It is only the secondary demand that really comes from merit. For the introduction of the new products by advertising, an enormous outlay is required. It is neces-

sary to obtain higher prices to pay for this advertising. To protect the investment of capital, monopoly is considered necessary by some manufacturing houses. This is usually obtained by patenting materia medica products. In protecting advertised products from injury to sales sometimes resulting from the original research of scientific men, certain manufacturers deem it necessary to threaten such investigators with lawsuits, if the evidence published is of an unfavorable nature. If members of the profession cannot impartially discuss new materia medica products without danger of lawsuit, how can we expect progress in materia medica science and in the arts of pharmacy and drug therapeutics?

In my paper read before the American Medical Editors' Association, I suggested a plan I have been advocating for the past thirty years, namely, the establishment of a strong central board of control, in which the manufacturing houses, the medical and pharmaceutical journals, and the professions of medicine and pharmacy could be represented. Some of the functions of the proposed board would be the censorship of materia medica advertising and of the literature and labels of manufacturing houses; also the investigation of the therapeutic claims relating to new materia medica products by collective investigation, using the working bulletin system for that purpose. The plan differs from that of the Council on Pharmacy and Chemistry in that it is cooperative rather than judicial. Its work would be supplementary to that of the Council and in harmony with it. I do not believe we fully realize the enormous amount of good accomplished by the Council. The Council ought to have the backing of every manufacturing house in the country. By attacking fraud in pharmacy, it is driving out unfair competition, and making it possible for honest manufacturers and their experts to obtain an honest living.

DR. W. D. CALVIN, Fort Wayne, Ind.: Much of the time spent in studying most of the drugs that we find in our materia medica to-day is wasted.

Sometime ago, I read a paper before our society on the misuse or abuse of drugs and I secured the consensus of opinion of about seventy members of our society concerning the drugs they thought were most misused. We arrived at the following conclusions: First, many drugs are over-used; second, many drugs are misused; third, many drugs should more frequently give place to other and better therapeutic agents. I said, "If I ask you, as members of this society, to write down ten or twelve drugs with which you could conduct 90 or 95 per cent. of your drug therapy, the result would probably be that you would discover that you would not require that number." If I were to ask the same question to-day, you would write two or three rapidly and go more and more slowly as you approached the tenth, if, perchance, you ever reached it. I am free to say that 95 per cent. of my drug therapy is done with fewer than ten drugs and I believe that this is the experience of every man here to-day. I do not believe less in drug therapy than I did when I left college. I have much less confidence in most of the drugs found in the materia medica than I had at that time, but to counterbalance that I have much more confidence in the few I use than I had at that time. Is not that your experience? Why should we all go through this constant weeding out that we must individually do after we leave college?

Shortly after leaving college I passed the State Board of Minnesota, considered a hard board at that time. Three of the questions in materia medica were concerning drugs that I have never used from that time to this. The examination simply tested us out to see if we had gone through the pages. Was that practical? No. Many of our state boards are still asking these questions. Among the state boards of the United States appointed through political pull many a member is not able to answer the questions he asks. That is not true, of course, of the boards that are appointed at the suggestion of our state medical societies and not entirely true of the others. I would not make a sweeping statement of that kind.

DR. HOBART A. HARE, Philadelphia: The statement was made in the report of the committee that certain drugs are

placed in the text-books because they were found in the Pharmacopeia and that they were placed in the Pharmacopeia because they are in the text-books. This is not accurate. The drugs which are official are the drugs which pharmacists and physicians and the laity all over the country call for with sufficient frequency and constancy to make it necessary that both the physician and layman should be protected and should be sure of getting a real drug or a definite compound of a drug. The drugs are not put into the Pharmacopeia because they are in the text-books, but it is true that they are put into the text-books because they are in the Pharmacopeia, although I do not know of any text-book which includes all the drugs that are in the Pharmacopeia because the practicing physician and the man writing a text-book find many drugs in the Pharmacopeia which they cannot endorse and which they believe to be largely inert. I am in accord with the statement that the list of drugs to be taught to students is ridiculously large. The average physician will get along better if he uses ten or twelve drugs, but that some variations of these drugs are unnecessary I do not believe. In medicine one preparation suits the needs of a patient better than another. The one may not be different from the other in its physiologic action when it is absorbed, but it is different in appearance or taste or different in the ability with which it disturbs or agrees with the stomach. There is danger of antagonizing the experience of men in general practice by being too dogmatic in regard to these points.

Half of the number of hours that I devote to lectures could be more advantageously employed if there were no state boards because, like Dr. Calvin, I am forced to teach facts which will not be used in practice merely because they will be used in state board examinations. A few years ago a member of a board asked what the dose of *santonin* was for a babe of 8 months. I have never yet seen a babe of 8 months with roundworms. I would not have known what to answer myself. When I wrote and protested, the examiner replied that he did not believe that my criticism needed further consideration. Dr. Councilman told me that he believed that the best form of examination—a practical one—was that used in Massachusetts. This means that the man who can prove to the board that he has practical knowledge will be licensed, whereas most of our boards ask questions, correct answers to which do not prove that the applicant is a competent physician to practice.

DR. S. SOLIS-COHEN, Philadelphia: Potassium citrate may be the only diuretic salt needed at Yale, but some of us have formed the habit of using potassium acetate occasionally. Why should the American Medical Association say, even to Philadelphia barbarians, "You must not use 'tweedledum'; you must accept the dictate of Olympus and employ 'tweedle-dee'?" This question is not so simple as one may deem in looking at it from the purely personal point of view. I have no objection to Yale's restricting itself to twenty drugs, or to Oxford's restricting itself to four, or to Harvard's restricting itself to none; but if the patient happens to be under my care and my judgment tells me that I shall use a remedy which is outside of the twenty or the four that are sacrosanct, or even the nine hundred and forty that are officialized, what is my duty under the circumstances? To bow to some prohibitive restriction imposed in ignorance of the existence of that patient and of the conditions that he presents, perhaps in ignorance of the existence or of the influence of the remedy I propose to use? Maybe so—but I do not see in that light. My patient is entitled to my knowledge unhampered by orthodox, or even official, ignorance. For example, I have had an interesting discussion lately with regard to *aspidospermin*. This potent drug does not find place in the Pharmacopeia of to-day; it probably will not find place in the Pharmacopeia of next year or the year after. *Aspidospermin*, therefore, omitted from the Pharmacopeia to please restrictionists who know nothing whatever about it from personal observation, must not be prescribed by me on account of such omission, although I should not know how to treat certain cases of asthma without it. I

know how asthma is treated without it, of course, but I should not know how I could give my patients the benefit of the knowledge and skill they are entitled to. There is no objection to any physician restricting himself to the tools that he knows how to use; but there is every objection to his attempting to restrict some other physician who has other, and perhaps better, tools and methods. The Pharmacopeia should admit every drug that is known to be of advantage in the treatment of the sick, no matter how seldom it is prescribed and no matter how many other drugs there may be which have similar influence. On the other hand, it is true that we can simplify the teaching of materia medica and improve the practice of therapeutics by confining our work in the schools to a certain number of typical drugs, provided, however, that these drugs are to be taught as types and not as exclusives.

DR. M. CLAYTON THURSH, Philadelphia: The important part that the state medical boards of this country play in the teaching of pharmacology and therapeutics in our medical schools has not been sufficiently emphasized. The young man who is about to enter a medical school, of course, wishes to enter the best. He selects one of the colleges which has most of its graduates pass the state board and the way we decide their respective rank is by the report we find once a year in THE JOURNAL of the American Medical Association. How do we classify medical colleges in their reputation? They are beautifully classified according to the number of men who pass the state boards successfully. The school with the fewest failures is considered the best school. Considering state boards as the best judges of the reliability of medical schools, we must consider what a powerful factor the state board is. A few years ago in Pennsylvania the question was asked: "How much tincture of *pilocarpus* is equivalent to 1/20 of a grain of *pilocarpin hydrochlorid*?" The students could not answer the question and brought it to me. I told them that the question could not be answered because the amount of *pilocarpin* varies in different specimens of the drug, and again we have no standard-strength tincture official. How could you make the comparison to determine how much tincture? That is the kind of questions our state boards ask. The whole solution of this problem is to have men on our state boards who will ask sensible questions. Then our teachers of therapeutics, as Dr. Hare has said, will not have to teach one dose for the state board examination and another dose for actual practice.

DR. L. F. KEHLER, Washington, D. C.: Professor Puckner spoke of restricting the number of drugs and stated that widely used drugs are usually of high quality and of greater purity. My experience bears out that view in so far as chemicals are concerned, but such is not the case with crude plant drugs. Ergot, for example, imported into the United States during the past year, has been very bad, yet large quantities are used. The same thing holds true in regard to *buchu* leaves, so far as foreign material is concerned. Another point that ought to be brought out is this: even though the chemicals are of good quality the preparations containing them frequently vary materially. A worse feature is that they are often not true to claims that appear on the label. For example, you will find a tablet labeled as containing 1/60 of a grain of *strychnin*; investigation often shows that it does not contain that quantity or contains much more. The same is true of *nitroglycerin* tablets. Professor Hynson spoke of 17,000 drugs they have kept watch of. We need to keep watch of a much larger number, probably 25,000 proprietary remedies and probably the same number of ethical mixtures. A pill or tablet made by one manufacturer may be analyzed by a certain method, but when the analyst applies that same method to a tablet of another make and tries to analyze it he is likely to experience trouble. So it is necessary, in order to arrive at the active constituents in some of these tablets, to work out a method for almost every manufacturer's tablet. One argument against the restriction of the number of these drugs is that the Pharmacopeia is the law and the standard. With the present construction of the law I wish there was no Pharmacopeia, because if the Pharmacopeia is made a standard

we are virtually restricted to that standard. We have no discretion in going further. A case we had in New York the other day illustrates this. An importer was allowed to bring in so-called senna siftings, but after getting it in the bale was renamed and shipped into interstate commerce as "broken senna." The court held, under the definition of the law, that the commodity was not considered adulterated because the word "broken" was introduced. If we had not been restricted to the Pharmacopeia we would have been absolutely free to fix a standard, but with the Pharmacopeia as it stands we are apparently helpless. Any standard of the Pharmacopeia can be negated as the situation now stands by introducing some qualifying word such as "broken." Another example is debased male fern, shipped into interstate commerce as "male fern, natural." It is claimed not to be the male fern of the Pharmacopeia, but something else. If the Pharmacopeia did not exist, if it was not under the law, we would not have these difficulties.

DR. OLIVER T. OSBORNE, New Haven, Conn.: You will all realize why Dr. Cohen and I cannot get together on the Pharmacopeia. In other sections the need for accepting the best present standards is recognized, but here advice as to what drugs have positive therapeutic value is called an attempt to take away the personal liberty of the individual. I say we should go in for therapeutics right up to date. Now, we can talk until we are tired of the standardization of the Pharmacopeia and its object. The Pharmacopeia is an advertisement and a recommendation of the drugs it names, and says to the individual, this is the best we can offer you, go and practice it. Therefore, I say that there is an object in limiting our discussions to drugs that are of value and insisting that they are the ones we should use, and the Pharmacopeia should contain only such useful drugs. On the other hand, if we are going to standardize different colored preparations for psychic effects, for the sake of the effect on patients, what will the end be? If bricks and sand are essentials to putting together a house with a spade, and some builders prefer a modified spade called a trowel, is it necessary to standardize the trowels? Let him get it where he can get that particular trowel; not standardize any one trowel and say that is the trowel. Just before I left New Haven, in an examination of our junior class on advanced pharmacology and beginning therapeutics, I asked the question: "Name the ten drugs that have the most value in your opinion and then state why. Also, name the best preparations and doses of these individual drugs." Twenty drugs would cover all these men decided on. Now that is what we are looking for in the advance of the teaching of materia medica, and the medical examining boards have got to come to it. It is only a question of a few years more and schools and examining boards will recognize only active drugs, and why should not we all now aim to have the Pharmacopeia an up-to-date proposition? One word more in regard to substances presented to the Council on Pharmacy and Chemistry. Many times the preparation offered does the work claimed for it. But we find that the active substance is in a mixture. We cannot pick out one of these therapeutic combinations and say "this is what does the work," when any other combination of the active drug would do as well.

The Mental Factor in Functional Diseases.—An intimate relation exists between the functions of the central nervous system on the one hand and the sensory, motor and visceral functions on the other. This vital relation, though unobtrusive in the normal individual, stands out clear and distinct in the whole domain of functional diseases. Clinical and laboratory studies have brought to light the important fact that all those cases that go under the description of nervous disturbances of a functional character, such as hysteria, hystero-epilepsy, the so-called larval epilepsy, psychic epilepsy, neurasthenia, psychasthenia, and all the forms of the neuroses and phobias in regard to external and internal stimulations, are all to be ultimately referred to mental disturbances, whether conscious or subconscious.—Sidis in *Arch. Diagnosis*.

THE TREATMENT OF LEUKEMIA AND PSEUDOLEUKEMIA WITH X-RAYS *

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AND

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Little has been added to our knowledge of the etiology or pathology of leukemia and Hodgkin's disease during the last few years. Some details regarding the diagnosis have been established and in the case of Hodgkin's disease the clinical differentiation from certain conditions presenting superficial resemblances has been made possible. So far as the ultimate causes and nature of these diseases are concerned, we remain in the same ignorance as formerly. The tendency among writers has, it is true, been more and more commonly manifested in the direction of regarding both as close kindred of the new growths, a view which we have held for a long time and on which in a large measure our methods of using the x-rays in the treatment are based. In our former discussion of the subject¹ we called attention to the fact that so far as leukemia is concerned all recent investigations tended to prove that the bone-marrow is the primary seat of the morbid processes, no matter whether the disease is of the so-called myelogenous or of the lymphatic variety. The further contributions of the years intervening since our publications still tend to maintain this proposition. In the case of Hodgkin's disease the evidence is otherwise. Here the initial lesions are of a different sort and localization, the lymphatic glands being the place of origin and remaining the place of chief involvement.

One other feature in the pathology of these diseases that requires brief mention here is the influence of the disease of the bone-marrow on the formation of red blood-corpuscles. The clinical study of the blood in cases of leukemia progressing unfavorably always shows advancing anemia, which is evident from the decreasing number of red corpuscles, their morphologic variation from the normal and in the somewhat less trustworthy diminution of hemoglobin as determined by the ordinary methods. So far as the hemoglobin is concerned, one must remember that increased leukocyte-counts affect the estimations very decidedly. This progressive anemia of advancing leukemia is manifestly hypoplastic. All the evidence of the studies of the blood points to increasing imperfection in blood-making and there are few of the signs of hemolysis. As far as prognosis is concerned we must look to the study of the red cells and of the hemoglobin for the best guides to a determination of the probable course of the case. Enormous numbers of leukocytes may be present for considerable periods without immediate serious significance, but a rapidly falling erythrocytic count is always ominous. On the other hand, reduction of the leukocyte-count alone does not constitute sufficient evidence of improvement. This was plainly shown in some of the early x-ray treatments when applications to the spleen sometimes caused rapid reductions of the leukocyte-count without corresponding improvement in the patient—rather, indeed, with a reverse effect.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Third Annual Session, held at Atlantic City, June, 1912.

1. Stengel, A., and Pancost, H. K.: Treatment of Leukemia by the X-Ray, *THE JOURNAL A. M. A.*; April 25, 1908, p. 1317.