most natural thing for the Association to do, for its Code of Ethics reads as follows:

It is derogatory to professional character for a physician to prescribe or dispense a *secret nostrum* whether it be the composition or exclusive property of himself or others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone gives it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice.

And, in conclusion, it seems pertinent to ask why the present is not as good a time as any for the American Medical Association to discuss plans for taking the matter to Congress in Washington.

HYPNOTICS, ANALGESICS AND RESULTANT DRUG ADDICTIONS.*

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Insomnia and pain are the banes of existence of the patient with any nervous affection, and from his standpoint are in themselves the maladies from which he is suffering. He prays his physician for relief from one or both, knowing, alas too well, that the market is full of drugs that will bring him relief. It does not often occur to him that the physician has any more complicated mental process to go through than merely to choose the right drug to bring healthful sleep and to banish pain. Insomnia and pain may each be the cause of the other, or they may be the outward symptoms of an exceedingly complex condition of derangement.

CLASSIFICATION OF INSOMNIA.

In trying to study the causes of sleeplessness I have found it helpful to remember the classification of insomnia that Sir James Sawyer lays down in his "Contributions to Practical Medicine." He says:

Cases of insomnia seem to divide themselves naturally into two groups, namely, of cases of what may be called *symptomatic insomnia*, and of cases of what may be called *intrinsic insomnia*. Symptomatic insomnia attends a vast variety of morbid states, and is secondary to them, or is part of them. Intrinsic insomnia, or insomnia per se, is a kind of wakefulness that seems to depend on the inability of the brain to adapt itself to the conditions of sleep.

Symptomatic insomnia, or the sleeplessness that is one of the symptoms of a disease attended by severe pain is not so difficult to treat, provided the pain, or the elevation of the temperature, or the coughing be the only cause. We may control it either by using hypnotics or soporifics, or by giving drugs that will reduce the fever or diminish pain, or stop the cough; or we may combine the treatments, and use soporifics in conjunction with the remedies that will remove the causes of pain or fever.

The family physician who uses sulphonal or trional for the purpose of inducing sleep in severe illness, employs one of the most valuable aids to recovery, for sleep as a natural remedy in disease is as necessary as any therapeutic remedy. But, at the same time, these drugs, if used continually, will of themselves cause the worst kind of insomnia, that in which natural sleep is absolutely impossible without the aid of a drug.

Intrinsic insomnia, to refer again to the classification of Sir James Sawyer, is due to various causes, which he divides into three groups, viz., the *psychic*, the *toxic* and the *senile*.

Psychic Insomnia.—It is taught that the brain in natural sleep is relatively anemic. When the brain is in full working activity the cerebral arteries are well filled with blood from which the brain cells are rapidly receiving nourishment and ridding themselves of waste. During sleep the blood flows more gently and in smaller streams through the brain; and the brain cells are not expending energy, but are storing it up. Anything, therefore, which tends to keep up the activity of the brain cells and keeps the blood circulating freely through the brain tends emphatically to keep the brain cells from repose and the patient finds himself sleepless. The psychic causes of such brain activity may be the habit of thinking over business or work after going to bed, worry, anxiety, excessive mental work that will not let the brain cells cease working for several hours after the real work stops, sudden grief or shock, or form of preying sorrow, remorse or loss of hope.

Toxic Insomnia.—The toxic causes of brain activity are due to some poison, that maintains the arterial supply of the cortex of the brain at such a height and so long that wakefulness is inevitable. These poisons may be in the form of drugs that have become a habit; alcohol, or the milder stimulants of tobacco, tea or coffee, or, on the other hand, the poisons may be certain accumulated waste products of the patient's own metabolism.

Senile Insomnia.—Senile causes of sleeplessness are due to the age of the arteries. As the smaller cerebral arteries lose their elasticity their walls grow weak, and they are physically unable to regulate the flow of blood to the brain which ought to be diminished at night to cause the sleep of youth.

On this brief classification of the causes of insomnia I would establish an outline of the kinds of treatment that are recommended by men of wide experience, with a discussion of the question of how far hypnotics may be used to relieve insomnia and analgesics employed to alleviate pain without danger of resultant drug addiction.

THE DECLINE OF STOICISM.

In the first place, I would say that the demand for relief from minor pains and slight insomnia has increased with the supply of remedies. Although my experience is limited to some ten or twelve years of practice, and I can not with authority compare the older days with the present, yet I think I may safely say that people, as a rule, do not bear pain as bravely as they did before the days of anesthetics, analgesics and hypnotics. Such scenes of fortitude as Allie's operation in Dr. John Brown's story of "Rab and His Friends," are, we are thankful to say, unnecessary now; but at the same time the day is past when women bore the pain of cancer, or the knowledge that they were dying of a tumor, to their graves without opening their lips to anyone save their physician. The brave serenity of spirit showed by Sydney Lanier, who was carried to his class room to give his lectures, and who never permitted his illness to be mentioned, and the gay stoicism of Robert Louis Stevenson, whose only reference to his hemorrhages were as to his friend "Bloody Jack, who was with him that morning," are examples of that heroism in suffering which I believe has become much more rare with the introduction of the many pain-relieving remedies.

Any sufferer may to-day, at the cost of ten cents, purchase temporary relief from a headache that is due to overwork, or an artificial night's sleep where sleep should have come naturally. To suffer is no longer deemed

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brave, it is deemed ignorant; but the little knowledge that will bring relief is too often a dangerous thing.

The result of this easy and sure means of obtaining relief has led patients, and sometimes physicians, to be too easily satisfied with relieving pain and giving artificial sleep instead of ferreting out the cause of the trouble and removing it, as they were obliged to do in the old days if they would stop pain.

I do not purpose to speak of drug habits acquired by patients who treat themselves, except to say that every analgesic and every hypnotic is dangerous if used indiscriminately; and that all patients should be emphatically warned that there is nothing that they can take regularly and persistently to relieve pain or sleeplessness without doing themselves permanent injury. Paradoxical as it may seem, the least harmful drugs are often the most deadly. Fewer men and women ruin their nerves by the abuse of chloral than they do by the use of bromids. I have had many patients the victims of the bromo-seltzer habit, who took high moral grounds against the use of morphin and chloral. I have entered a business man's office and seen it stocked with a winter's supply of bromo-seltzer, with which he proposes, as was his wont, to ward off his regular afternoon headache; and I have had as hard a fight to bring him, by means of travel, exercise and diet, to a normal state of health as in breaking a morphin fiend of his habit.

It would greatly lessen the dangers of drug habits if family practitioners would encourage patients to endure a certain amount of the pain and sleeplessness of general diseases, never saying, "I will leave you something perfectly harmless that will make you sleep"; or, "I will give you something very new and very powerful that will stop that pain in ten minutes." The drugs for relief should, as far as possible, be combined in prescription with the drugs that treat the disease, or left without name or emphasis to be taken at the right time. In almost every case the abuse of phenacetin, antipyrin, acetanilid, the salicylates and allied products has begun by a physician calling especial attention to the efficacy and harmlessness of these drugs first prescribed to ease the pain and sleeplessness of some acute disease, such as tonsillitis or gripe.

THE USE OF FAKE SYNTHETIC FORMULÆ.

In this connection I can not refrain from calling attention to a large number of combinations of well-known drugs of this class that are given fake chemical formulæ, and which, while substantially mixtures of such remedies as antipyrin, acetanilid, phenacetin and allied synthetics, yet nevertheless are claimed to be new and important synthetic discoveries. It is to be regretted, moreover, that there are to be found physicians who will describe at great length and in much detail the wonderful cures which have resulted from the use of some of these impossible synthetics. All honor should be paid and support given to the enterprising chemist who has devised a really good new product. The profit that he may make from it is legitimately his, but physicians, as a class, I believe, are too prone to accept unchallenged the statements of some manufacturers who put out misfit combinations.

It is not expected that we as physicians should bear always in mind the chemical lore of our laboratory days, but a more careful scrutiny of the great flood of newer synthetics is advisable if not imperative. Moreover, when it is to be borne in mind that many of these so-called newer synthetics are sold for from fifty cents to one dollar an ounce, when their constituent parts may

be purchased for from ten to twenty cents per pound, the robbery is made possible only under the guise of a trade name, and if the education of the physician is not sufficient to protect the public, then legislation is imperative.

HOW TO TREAT INSOMNIA.

As a rule the few doses of such drugs that are necessary to bring relief in acute diseases, whether to ease pain or to bring sleep, lead to no habit. As soon as the body has recovered its tone, and so soon as the cause of the pain is removed and the pain itself has disappeared, the body does not crave a repetition of the drugs. Even opium, in any of its forms, can be borne well and leaves no bad effect when intelligently prescribed. The sole danger in such cases, I believe, lies in the fact that the patient knows what has given him relief, and will, inevitably, tamper with the fascinating drugs when he has some minor ailment in the future. He then almost invariably runs a twofold danger: by continually giving himself relief from a pain that ought to be investigated he ignores the cause of his pain until his disease is pronounced, and in the meantime has by repeated use of the drug habituated his nervous system to overstimulation.

These cases in which pain and insomnia were at first merely secondary phenomena form a large percentage of the patients who afterwards come to us to be treated for the toxic form of insomnia *per se*.

In the severer grades of psychic insomnia it is often necessary to secure a few nights of artificial sleep at any cost; for the sleep of itself will in a few days induce sleep and the doses may be tapered off, or the need for them will stop naturally. In the cases of insomnia following sudden shock, great mental excitement, the anxiety attendant on strain of business, or the nervous state of worry in women that is accompanied by a hysterical breakdown, it is wise to give hypnotics and to induce sleep until the body is thoroughly refreshed. In such cases many physicians prefer, I think, with good reason, opium or chloral, or their combination, although of late years the use of trional and sulphonal with some of the modifications of chloral, chloralamid, etc., have given excellent results.

Sir Lauder Brunton has suggested with much wisdom that a combination of hypnotics is more successful than any one of them singly. He recommended the now well-known mixture of small quantities of morphin, chloral and the bromids, and this is a favorite combination of a great many of us.

POPULAR KNOWLEDGE OF OPIUM UNDESIRABLE.

Whenever opium enters into the prescription for the relief of insomnia or pain, too much caution can not be urged. This is an oft-repeated tale, and yet from the crop of habitués of this drug that I see yearly, it seems not altogether to have been learned. At the same time, it is my own firm conviction that there is too much popular knowledge of the effects of opium, and personally I should condemn in the strongest possible manner the practice of the Woman's Christian Temperance Union of imposing on the public the 10 to 25 per cent. of information regarding alcohol and opium which they make obligatory in the publication of school books. The giving to the young and immature a knowledge of the seductive activities of any agent is, in my humble opinion, a practice worthy of the severest criticism.

THE NEWER OPIUM DERIVATIVES.

But this leads away from the last topic of my paper, the new opium derivatives. These, heroin, dionin and

peronin, as is well known, are derivatives of morphin; modifications by chemical substitution of groups of atoms. They are distinctly not morphin, and their activities have definite and distinct individualities. The pharmacologist who would alone register blood pressure, respiratory activity and heart beat, may maintain that these drugs have an identical action; but he does so on very meager and insufficient data. The psychologic manifestations of the activities of these drugs are distinct and in the genesis of drug habits, the brain and its activities is the all-important factor, heart beat and blood pressure are secondary.

Of the opium habit I need say nothing; physicians are acquainted with its general features, but in this day and generation what may happen on account of this widening out of our therapeutic possibilities?

I believe that just as phenacetin, antipyrin and acetanilid, trional and the newer chloral combinations have so richly supplied the profession with weapons to attack pain and insomnia and have thereby lessened the danger of the opium habit, so the introduction of the new morphin derivatives will afford a like refuge for those patients for whom opium seems imperative. They will lessen the great amount of the morphin habit even if at times they may induce a habit of their own. That they do is no question, but I have dealt with this subject elsewhere.

To my mind the question of drug habits, so far as the physician is concerned, in large part resolves itself into a number of simple restrictions that we shall place on ourselves. These may be expressed as follows:

CONCLUSIONS.

1. Prescribe the drug which will do the work required to produce sleep or relieve pain, but let it be so graduated with reference to dosage and choice of remedy that it will be the least harmful if used steadily.

2. Keep our mouths tightly shut as to what we are using. Do not say, "Take 1 gr. phenacetin, 10 grs. of salol, ½ gr. of codein." Give it to the patient if necessary, but do not under any circumstances permit him to know what it is. That is a medical question, and if the information is imparted its circle of pernicious activity radiates further than we can imagine.

3. Wage incessant warfare on the many pirates who provide all sorts of reliefs to the public, going directly to them through the lay press and the magazines.

4. In conclusion, let it be remembered that the introduction of newer drugs, rightly set forth by honest chemists and worthy clinicians makes most desirable accessions to our armamentarium; but that false pretense and economic robbery of an unsuspecting public deserve united condemnation and opposition.

DISCUSSION

ON THE PAPERS OF DRs. SPRATLING AND JELLIFFE.

DR. FRANK WOODBURY, Philadelphia—The author referred to the laws of China, but not to those of Japan, which present a marked contrast. The Japanese government apparently modeled its regulations of the sale of nostrums on the plan of Austria. It requires the registration of actual formulae, and if any are found which do not correspond to the formula their sale is forbidden under penalty. Furthermore, if any compound or preparation is considered by the health board as injurious or dangerous, its sale is absolutely prohibited. Finally, those that are shown to be useful have their price regulated, so that the sick shall not be charged extortionate prices. These laws are not only in marked contrast to the absence of regulation in China, but they are also far in advance of our own.

DR. H. C. WOOD, JR., Philadelphia—Most of the members of the American Medical Association have decided views on the

subject of self-medication and on the dispensing of medicine by the physician who thus invades the province of the pharmacist. I think that this practice is attended by great danger to both professions, and to the patients as well.

With regard to the suggestion of Dr. Spratling about instructing the laity, I think that it would be better to remove the beams from our own eyes before attempting to remove the mote from our brother's eye. For instance, many of the preparations now in use among physicians are nothing more than secret preparations. Only this afternoon, in coming into the room, I picked up a circular containing the advertisement of a preparation made by Rigaud and Chapoteaut, which is not only advertised to the profession, but is also advertised to the public in the daily papers for self-medication. The remedy for this evil is difficult to find. Dr. Spratling has suggested popular lectures as a means of instructing the public; perhaps some papers read before medical societies might afford a good introduction to the general discussion of the subject.

The final recommendation is not possible in the United States. The sentiment of the people would be against it as being antagonistic to American ideas. Much, however, can be done by the proper exercise of legislative control. The greater part of the protection to nostrums is due to the copyright laws. Probably the protection by copyright is more than is needed. If the profession would try to overcome the copyright protection of nostrums, it would accomplish a great deal toward breaking up this kind of self-medication by the laity.

DR. W. J. ROBINSON, New York City—The papers are both valuable and timely. The suggestion that physicians should contribute articles to be published in the daily papers is a good one; but to pay for their publication would cost too much. If the articles were well written, no doubt the papers would be glad to get them as matters of interest to their readers.

I am surprised to hear Dr. Spratling's remarks on the careful regulation of the sale of patent medicines in France. I have been in France myself, and that is not the opinion that I would have formed from my own observation. There is hardly an old wall in Paris that is not covered with advertisements of proprietary articles, and the little kiosks, or public urinals, are covered with directions for self-treatment for venereal disease and lost sexual power, the remedies to be bought at all pharmacists. Possibly the laws are on the books but are not enforced. Patent medicines are everywhere in evidence in Paris, even the illuminated kiosks at night are covered with announcements of new nostrums.

With regard to the remark about patients bearing pain much less than formerly, I believe this to be true. We can not go into the lying-in chamber without taking with us a bottle of chloroform or ether, and we use them for slight surgical operations, often, indeed, against our better judgment.

A remark has been made about physicians of the present day giving simple substances, instead of the complex preparations that were formerly in use. This is in the direction of more accurate and scientific prescribing. This has been recognized by the Pharmacopeia, and the physician now has at his command many articles in the form of active principles and simple substances that it was impossible to get formerly, except in combination. This is a fact known to every chemist; but the average physician is slow to understand it.

About the evils of self-drugging, everyone present can recall instances. I recall a patient who took, every day, sixty grains of phenacetin, and who claims that when he goes without it he suffers with headache. It is impossible to say whether the headache is really caused by the want of the phenacetin or whether a phenacetin habit has become established. Another patient who had a syphilitic headache when a young man, and was cured of it by the biniodid of mercury, for years afterward was in the habit of recommending this drug to his friends when they complained of having headache.

DR. W. L. DICKERSON, St. Louis—I have observed that, just at the close of the sessions for the last four or five years, there has been brought up for discussion this most interesting subject when there are very few to discuss it and very little time to do it in. It seems to me that, in trying to regulate

this matter of the use of proprietary preparations, we must begin with the profession itself. The pharmacists of my neighborhood can always tell when an agent for a drug manufacturing house is going around visiting physicians, because on the next day there will be several prescriptions calling for these special articles to be put up. Physicians know absolutely nothing of the composition of many of these preparations, and yet they take the statements of the agents, or the advertisements, as their authority. Certainly if a man makes a really valuable discovery or contribution to medical science, he should receive the advantages derived from the sale, but in that event he should patent the drug, and then we would know what it is that we use, for the composition must be made known of articles that are patented.

With regard to the habit of self-medication with narcotics, I think that there is a danger of such habits being formed if the physician places prescriptions of this kind in the hands of his patients indiscriminately. I am in the habit, when prescribing for a patient suffering with pain, to give a tablet of morphin from my hypodermic case and give a prescription for whatever else may be required. In this way, the patient gets the prescription without the opiate and there is less danger of forming the habit by refilling the prescription.

DR. W. P. SPRATLING, Sonyea, N. Y.—The tone of one of the speakers would seem to indicate that general legislation could not regulate the manufacture and sale of proprietary medicines in the United States. Such may be the case, but I think that the profession can secure some legislation if an effort is made. We can get laws to control the adulteration of food supplies, and I think the necessity for the protection of the public against injurious medicines is just as great in some instances as that of securing better food. The statements I made concerning the regulation of drugs in foreign countries was taken from consular reports made to the Department of State in 1898.

DR. S. E. JELLIFFE, New York—The proposition seems to me to be a very simple one, and one that could probably be settled in five minutes if we, as a profession, were all ideal ourselves; but we are not all ideal by any means. For instance, I have known this to occur: In New York City a very enterprising manufacturer devised a scheme to increase the sale of his particular produce. He issued pads, with printed prescriptions; each one had a coupon attached; for every one of these coupons representing orders sent to the drug store, the physician would receive 25 cents. If there are physicians of such character among us as to stoop to participate in a scheme like this, what can we say to the public or to the manufacturer of proprietaries?

COMMITTEE APPOINTED TO MAKE RECOMMENDATIONS.

DR. A. W. BAER, Chicago, moved that a committee of three members of the section be appointed on the subject of these papers, to report at the meeting of the section in 1903, making such recommendations as they think fit. The resolution was unanimously adopted and the chair appointed to serve on the committee, Drs. Baer, Robinson, and Wood.

A FURTHER STUDY OF THE INFLUENZA BACILLUS.*

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CHICAGO.

Of recent years such thorough study has been given by so many competent observers to systemic conditions produced by the *Bacillus influenza* in the human organism, that we may say we are fairly familiar with and able to recognize all the important points in the general symptomatology of influenza. There are special conditions, however, concerning which we are not so well informed, and to direct attention to what may be called "some of the atypical manifestations of the influenza

bacillus" is the purpose of this paper. The pathologic states of the mucous membrane which may be produced by the growth and development of this micro-organism on them are of sufficient gravity to warrant careful consideration. During the past five years a great many hundred cultures which were made from inflamed throat, nasal mucous membrane, eyes, etc., have been examined and it has been found that many of these local disorders were dependent on the action of the influenza bacillus, and not on the pyogenic bacteria. In a report published in the Bulletin of the Chicago Department of Health, January, 1899, I referred to some of the pronounced local disturbances which had been observed to be due to the Canon-Pfeiffer bacillus. The numerous observations made since that time confirm the statements then made. Attention was called to laryngeal, pharyngeal, nasal and ocular conditions—all severe types which were caused by the influenza bacillus.

In cases which were clinically laryngitis pure cultures of this organism were frequently obtained. The patients in the majority of instances presented symptoms which did not vary from those of acute catarrhal laryngitis. A feeling of rawness, tickling sensation, hoarseness and disposition to cough were the usual manifestations. Occasionally the symptoms were decidedly croupy in character, marked hoarseness, difficult respiration and a harsh, ringing cough were present. The mucous membranes were bright red, and in severe cases much swollen. The bacilli were found in the expectorated sputa and also in cultures made from these secretions.

In other cases which presented the usual clinical aspects of pharyngitis and tonsillitis the Pfeiffer bacillus appeared to be the exciting cause. Many times I have made bacterial examinations of exudations from mucous membranes which were congested, red and swollen and found no other organism. In many instances coming under observation the throat symptoms were so marked that a physician would feel justified in pronouncing the cases diphtheria, yet the Klebs-Loeffler bacillus was not found, although repeated examinations were made. Redness, swelling of the tonsils and well-developed membrane—manifestations certainly suggestive of diphtheria—have frequently been demonstrated to depend on the influenza bacillus. Indeed, cultures have been sent to the city laboratory many times for diagnosis which were taken from cases in which the probable clinical diagnosis was given as diphtheria by the attending physician, but instead of the diphtheria bacillus being found the influenza bacillus has been obtained in conditions almost pure. The power of this organism to excite such grave local disturbances is deserving of thoughtful inquiry and greater consideration than has heretofore been given to it. The proper treatment demands it. Diphtheria antitoxin administered to a patient suffering with a diphtheritic inflammation dependent on the Canon-Pfeiffer bacillus would fail to produce the desired results.

It would seem that when the influenza organism enters the system its field of action is not limited to some particular part of the body as that of many other pathogenic bacteria, but that it attacks and spends its force on any and every organ which offers least resistance. A throat may become the seat of severe manifestations and exhibit clinical symptoms—as already noted—differing not greatly from diphtheria, or in milder cases, from tonsillitis. The stomach and intestines do not escape this minute fungus, its activity in the one case producing gastritis, and in the other a condition simulating typhoid fever. It may advance along the eustachian tubes and

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