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OF
INEBRIETY.

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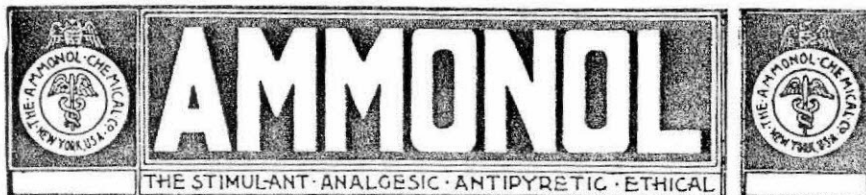
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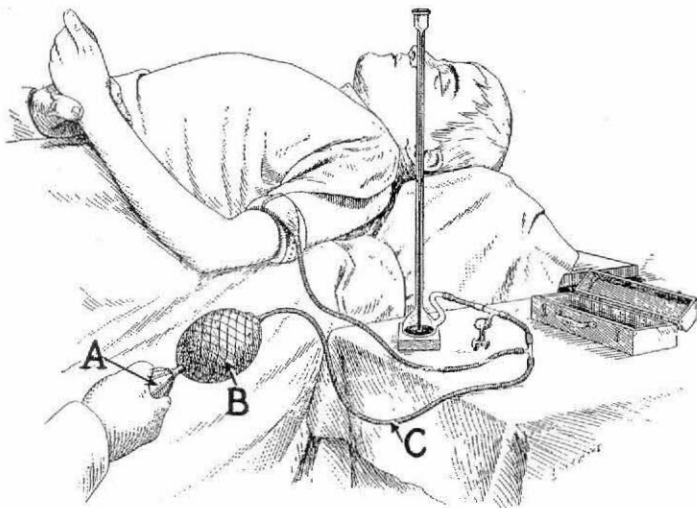
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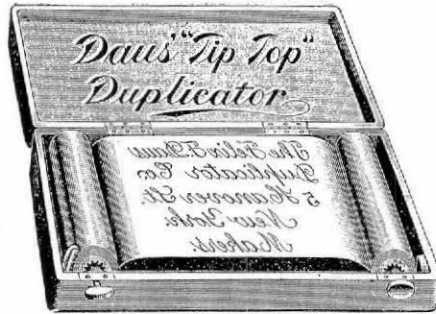
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This Journal will not be responsible for the opinions of essayists or contributors, unless indorsed by the Association.

ALCOHOL IN SURGERY.

BY PEARCE GOULD, M.S., M.D., F.R.C.S.

Surgeon to the Middlesex Hospital, England.

Alcohol plays a most important part in surgical practice. It is a chief cause of surgical accidents and injuries of all kinds. Alcoholic excess is one of the great causes of the exaggeration or complication of injuries: a drunken man will try to walk on a broken leg, and so convert a simple into a compound fracture, or greatly increase the displacement of the fragments, the laceration of muscles, and the extravasation of blood. The loss of mental vigor and control produced by alcohol has many other serious consequences, such as delay in seeking proper advice after an injury, the careless fouling of a wound, the renewing of hemorrhage that has been temporarily arrested, or the exposure to cold and wet such as occurs when an injured man lies for hours in a drunken sleep in a wet ditch. It is impossible to express in figures the part that alcohol thus plays in causing and exaggerating the injuries that crowd the casualty rooms and ac-

cident wards of a hospital; but it is as difficult to overstate its influence as to form a true picture of what this part of surgical practice would become if the narcotizing effects of alcohol were altogether banished. The frequency with which retention of urine is immediately caused by an alcoholic debauch is well known; so also is the part that alcoholism plays in the causation of a rupture of the bladder, first of all by causing a rapid excretion from the kidneys, next by the blunting of the sensorium which permits of the bladder becoming overfull, and lastly, by the liability to a fall, or to a kick or blow in a drunken brawl, that is the immediate cause of the rupture. It would be an exaggeration to attribute to alcohol a chief place among the causes of venereal diseases, but there can be no doubt that the excitement and loss of self-control produced by alcohol, even when not taken to great excess, are responsible for a very large number of those lapses from sexual virtue that are attended with such dire results. If to this list we add all the cases of vascular and visceral degeneration and disease induced by chronic alcoholic indulgence, we reach a total that places alcohol far ahead of any other personal habit or social condition as a factor in the production of surgical injuries and diseases. And even yet it has to be added that alcohol often plays a very injurious role in the subsequent course of an injury, operation, or infection. Delirium tremens is one of the most serious complications of fractures and other injuries, not only because the delirium introduces grave difficulties in the treatment of the injury itself, but also from the high mortality directly attending it. The diseases of the vascular system, of the liver and of the kidneys caused by chronic alcoholism have a most deleterious influence upon the course of all grave diseases, and tend to prevent the repair of injuries and the recovery from severe operations. Alcoholism also adds to the difficulty and dangers attending the administration of anæsthetics. Clinical and laboratory evidence

agree in showing the important influence that the circulation of alcohol through the tissues has upon the course of infections with pathogenic organisms. For all these reasons the part that alcohol plays is one of the great interest to surgeons; but there is such an entire agreement upon this point that there is no call to enlarge upon it, and the other aspect of the question, the value of alcohol as a therapeutic agent in surgical practice, is that to which I would rather devote the space at my disposal.

For many years I have dispensed almost entirely with alcohol as an aid in surgical treatment. As a student I saw it used, almost as a matter of routine, for every kind of surgical malady except head injuries, and in my early years I naturally followed the practice of my teachers; but as soon as I made trial for myself of the effect of withholding alcohol, I found how entirely overrated its value was, and how gravely mistaken had been the teaching. It is commonly held, I believe, that alcoholic stimulants are of especial value in all forms of septic inflammation, such as erysipelas, pyæmia, septicæmia, and hectic fever. I believe that this belief is founded solely upon tradition unsupported by any trustworthy evidence, and untested by experiment or experience. Where alcohol is always given its value cannot be estimated; a right judgment can only be arrived at by the comparison of cases in which it is given with those in which it is withheld. Having made this experiment, this comparison, I have no doubt whatever that not only are there no cases that require alcohol so little as the septic cases, but that there are few in which its influence is so wholly harmful. It has seemed to me that its effect is to dry the mouth, fur the tongue, cloud the intellect, lessen the ability to take, digest, and assimilate food, and to do nothing to lessen the tissue waste, to increase the elimination of poison, to maintain the strength of the heart, or to arrest the disease. I may be pardoned for mentioning two cases recently under my care at the hospital.

The first is that of a man, aged eighteen, who was admitted late one Saturday night with septic inflammation and suppuration affecting the left foot and leg, with pneumonic crepitation at both bases, and a systolic apical bruit. He was kindly seen by a colleague, who told me that he was so ill that he did not think I need hurry to see him next day, as he was not likely to be alive. However, next morning I went to see him, found him quite as ill as described, with low muttering delirium; his tongue was dry, brown, and tremulous, pulse 120, respirations 60, temperature 103; there were small areas of suppuration in an acutely inflamed foot and leg. I discontinued the brandy which had been ordered (4 oz. per diem), had the abscesses opened, and antistreptococcus serum injected twice. Later there was suppuration in the right shoulder joint, which was opened and drained. This man recovered and left the hospital convalescent within five weeks of his admission; the cardiac bruit had disappeared. Now, of course, it would be absurd to attribute his recovery solely to the withholding of alcohol; his original power of resistance, his constitution, the careful nursing, the diligent opening of abscesses as soon as detected, possibly the antistreptococcus serum also, all shared in this happy issue. But I quote the case as showing that in such a desperate case as this alcohol was not necessary to recovery, and I and others who watched the case felt that its administration would have diminished his chances of life. I may add that when I discontinued the brandy it was freely stated by some of those who knew the details of the case that the man's death would lie at my door, and that I had taken away his only chance of life. So strong is the general conviction that alcohol is practically the sheet-anchor of our treatment of septic disease.

More recently a woman, age forty-five, was admitted under my care, very ill from streptococcic infection. She had been ill for six weeks before admission, and was already

very emaciated, anæmic, and ill. There was a long chain of abscesses extending up the back of the right thigh. Subsequently there developed suppuration in the right shoulder joint, and a large abscess in the upper and outer part of the right thigh, probably in the bursa over the great trochanter. The urine contained albumen, and sometimes pus. Streptococci were found in the pus. The abscesses were opened as soon as detected. No alcohol was given while she was in the hospital, and she made an excellent convalescence, and left the hospital seven weeks after her admission. Here again, of course, I do not cite this case as showing that the withholding of alcohol is a curative force in septic poisoning, but only to prove that alcohol is certainly not essential to recovery in septic poisoning. I believe I am justified in my going further, and would say that recovery is rendered more probable, and convalescence more rapid, by not adding alcohol to their dietary. These cases are merely cited as types and examples. I could add many to them, and feel sure that all who have the courage to withstand the popular prejudice in this matter, and treat septic diseases without alcohol, find ample justification for their practice.

The results of experiments on animals exactly agree with the clinical evidence.

Abbot, in the *Journal of Experimental Medicine*, New York, 1896, records the results of his investigations. The animals employed were rabbits. He first of all gave ethylic alcohol in doses sufficient to produce a more or less deep intoxication, and repeated this for a varying length of time until the animals were alcoholized. These rabbits, as well as certain control rabbits, were then inoculated with cultures of (1) streptococcus pyogenes (erysipelas), (2) staphylococcus pyogenes aureus, and (3) bacillus coli communis. The alcoholized rabbits showed the effects of inoculation considerably earlier than did the control animals, and in the case of streptococcus infection the miliary abscesses were more nu-

merous and larger, as well as earlier in making their appearance. In other words, the alcohol had the effect of diminishing the resistance of the organism to the pathogenic bacteria. It seems to act by diminishing the alkalinity of the blood, and by exciting a negative chemiotaxis, thus lessening both the bactericidal power of the blood plasma and the phagocytic action of the white corpuscles.

Deleardi found that rabbits inoculated with anthrax are much more susceptible if they first receive a dose of alcohol. He states that it is almost impossible to produce any high degree of immunity against anthrax, tetanus, or hydrophobia in animals to which alcohol is being simultaneously given. He mentions also the interesting fact that there is a greater susceptibility to hydrophobia among those who take alcohol, and that the Pasteur treatment has been found to be more successful in the nonalcoholic than in the alcoholic patients. To quote his own words, "One sees that the elements which are called into play in the production of immunity, whatever they may be (and one thinks immediately of the leucocytes), are influenced above all when one causes to act simultaneously on the organism alcohol and the microbe, or its toxine."

Earlier than this Doyen pointed out that default in the acidity of the stomach contents and gastro-intestinal troubles are the conditions favorable to the development of cholera, and his experiments with alcohol showed that it was able to induce both of these unfavorable conditions, and in this fact he found the explanation of the frequency and gravity of cholera in those addicted to alcohol.

Sims Woodhead asserts that alcohol diminishes the alkalinity of the blood, and hence decreases its bactericidal power. "Alcohol does not produce leucocytosis in animals, it produces distinct leucopenia, not only when used for long periods, but even when used for a few days only. In three or four days its action is sufficient to increase the sus-

ceptibility of the animal acted on. Alcohol lessens the scavenging power of leucocytes; under its influence they lose their capacity for absorbing poisons and producing antitoxin; they fail to wall off organisms from the general circulation."

Dr. Laitinen conducted an elaborate series of experiments, over 500 in all, using rabbits, dogs, fowls, and pigeons, to determine the influence of alcohol on the infections of anthrax, tubercle, and diphtheria. His conclusion was that alcohol under all circumstances produces a considerable increase in the susceptibility to artificial infection with these organisms. Whether the alcohol was given only before or only after, or both before and after the injections, whether it was given in small or large doses, for a short time or a long time, and whether the infection was acute or chronic, the result was the same — increase in the susceptibility to infection. His experiments showed that the white corpuscles are very much reduced by alcohol, and that the alkalinity of the blood is distinctly diminished. Massort and Bordet state that alcohol even very diluted exercises on leucocytes a very energetic negative chemiotaxis. Schmiedeberg says, "Alcohol is not a stimulant of functional activity, but a paralyzing agent." Prof. Marshall writes, "Alcohol is a protoplasmic poison, and consequently practically toxic to all forms of tissue activity."

I believe that experience with patients suffering from various forms of infections exactly coincides with the results obtained in experiments upon animals. Not only are individuals who are addicted to alcoholic excess possessed of a much diminished resistance to all forms of infection, but the administration of alcohol to those already infected not only fails to add to their power to resist the disease, but even lessens that power. I think that of all the bad uses to which alcohol is often put as a therapeutic agent none is worse than its employment in any form of infective disease. Even in cases of uncontrollable suppuration from large tubercular

abscesses, the late stage of sacro-iliac disease, or caries of the spine, I have found nothing but good from withholding all alcohol, and I have never seen any ill effect from the abrupt discontinuance of the drug where patients had been taking it, even in large doses. One point of no small importance has often struck me, and that is the clean, moist tongue that these patients maintain if alcohol is withheld, and how quickly the tongue becomes furred, the mouth dry, and with this all appetite fails, when alcohol is given. In other words, exhaustion is, I believe, hastened, and not delayed, by alcohol, and much harm is unwittingly done by the frequent administration of stimulants to patients with exhausting discharges.

Another question of much surgical interest is whether the repair of wounds and the convalescence from severe injuries are aided by alcohol. The experimental evidence already quoted would seem to negative any such hope, and a rather large experience in the treatment of all kinds of wounds and injuries without the use of alcohol leads me to the conclusion that the drug is of no value for such purposes.

A more difficult point to determine is the value of alcohol in cases of profound shock and collapse. The exciting causes, the accompanying conditions, and the personal equation of the patient differ within such wide limits in these cases that it is extremely difficult to appraise accurately the value of any therapeutic remedy. So far as I have been able to judge I should not place alcohol among the means of primary value in the treatment of shock and collapse. It is certainly not of the value and importance that the horizontal position, rest, external heat, morphia, and possibly strychnine are, nor does it ever produce such a striking beneficial effect as the introduction of normal saline fluid into the blood does. If given, diluted, by the mouth, there is the stimulating effect of the act of deglutition as well as of the absorbed alcohol and water. When injected into the rectum, again

well diluted with hot water, the effect observed is often due more to the absorption of the water than of the alcohol, because quite striking improvement in the pulse is observed quickly after the injection into the rectum of either water or normal saline fluid at a proper temperature. In other cases pure spirit brandy is rubbed upon the lips and gums, and here the effect noticed is a combination of that due to the alcohol, and that produced by the irritation of the terminals of sensory branches of the fifth nerve. But trying to make allowance for all these other influences I think alcohol is of no use in shock in helping to tide over an acute emergency. It should be given in small quantity, if possible well diluted, and its administration should not be continued after any improvement in the pulse is noticed. It may possibly arrest a deepening collapse; it may help to initiate the reaction from the depressing effect of shock; but if its administration is continued during that reaction it does harm rather than good. Its use, therefore, should be limited to a single dose, though, of course, that single dose may be divided up and even administered through more than one channel.

The last point to which I would refer is the value of alcohol in the treatment of advanced cases of cancer. We are so much in the dark as to the real nature of cancer, and the course of the disease is so extremely varied, that it is necessary to speak of any therapeutic measures with the extremest caution. Bearing in mind this caution I would say, generally, that alcohol is injurious to patients with cancer. I think it may increase the activity of the disease, and that it often adds to the patient's pain. In the special cancer wards of the Middlesex Hospital it is quite noticeable that practically every patient improves a little after admission. This improvement is, of course, greatly due to the greater rest enjoyed — often rest of mind as well as of body — the gentle and skillful nursing, the greater cleanliness; but I think some share is also attributed to the more carefully

regulated diet and the withholding of alcohol. I have noticed malignant disease to advance very rapidly in those addicted to drink; I also recall cases in which, in the hospital, while not taking alcohol the disease advanced slowly, and caused little pain, and the patients determined to return to their home, and soon came back to the hospital worse in every way — the disease more active, pain and discharge worse, and the odor of their breath gave eloquent testimony to one change they had made in their dietary.

There are some special circumstances in cases of advanced cancer in which alcohol may be used with good effect. In some patients it is found that a small quantity of well-diluted spirit, given at about the same time as the evening dose of morphia, will secure sleep better than the morphia alone. Entire distaste for food is another distressing symptom not rarely met with, and sometimes a little beer or wine will help these patients to take food and so promote their comfort.

In dealing with cases of hopeless disease where recovery seems to be out of the question, and euthanasia our chief aim, our practice is not governed by strict therapeutic rules, and it may be wiser and kinder to continue a lifelong habit than to break it, even if the habit be to some extent injurious. But anything like a free use of alcohol is strongly to be deprecated — it is as pitifully injurious as is the free, unrestricted use of morphia. Either drug in moderation may be useful, but in excess only adds to the patient's misery. — Practitioner — Symposium.

In Belgium statistics indicate that, whereas for fifteen years the population has only increased fourteen per cent., the consumption of alcohol has increased thirty-seven per cent., and with it insanity has increased forty-five per cent., crime seventy-four per cent., suicide eighty per cent., and poverty 150 per cent.

THE VALUE OF SURGERY IN CERTAIN CASES OF
INEBRIETY.*

BY H. A. RODEBAUGH, M.D.

Park View Sanatorium, Columbus, Ohio.

The large number of relapses occurring after all forms of treatment of alcoholic and narcotic addictions is evidence that there is yet much to learn concerning the etiology, pathology, and treatment of these diseases.

As there are primarily two general causes of inebriety, moral and physical, it is reasonable to suppose that relapse will be due to the same general influences.

It is with the physical aspect of the question only that this paper is concerned.

When the time comes that we can certainly predict what particular cases will relapse it will be found that the largest number will be among those who have organic structural changes not cured by the ordinary methods now in vogue.

The late Dr. Beard of New York, in 1885, wrote that "when the nervous system loses through any cause much of its nervous force, so that it cannot stand the strain of living with ease and comfort, it leans on the nearest and most convenient artificial support that is capable of temporarily propping up the enfeebled frame."

It is my purpose in this paper to enumerate some of the causes of this loss of nervous force, and point out what I believe to be the cause of inebriety in a large number of cases, and to emphasize the importance of surgical treatment.

*Read at the thirty-second annual meeting of Association for the Study of Inebriety at Boston, Mass., Dec. 18, 1902.

The following case will serve to illustrate a large class.

Mr. Mc———, aged forty-seven, was brought to me fifteen years ago suffering from alcoholism. He was accompanied by his son, who stated that his father was postmaster in a town of 5,000 or 6,000 inhabitants, that he had been active in politics ten years before when he began social drinking, and that he had not been entirely sober for the last five years.

After a few days the patient was able to give an intelligent account of himself. He had suffered for years from hemorrhoids, pain in the back, back of the head, general nervousness, and insomnia. After he began drinking he noticed that when under the influence of alcohol the pain was absent. He had been continuously intoxicated for many months just prior to the time I saw him. He remained under treatment one month and improved rapidly, except that the pain in the back of the head never entirely left him.

I explained his case to him, and urged that upon reaching home he immediately submit to an operation for the radical cure of hemorrhoids. Instead, however, he at once returned to his work, which had been sadly neglected, and in just one month from the time he left he was returned by his son helplessly intoxicated. He was anesthetized, and a radical operation for hemorrhoids made. He was kept in bed two weeks, and had absolutely no medicine or treatment of any kind other than the dressings required.

I have been in communication with this patient, and he informs me that his health has remained good and that there has been no return of the drink crave.

The sympathetic nervous system is a most interesting study. It will readily be called to the mind of every thoughtful physician how, through the medium of this system, many of the cases of so-called "nervous prostration and collapse" are brought about, directly or indirectly, by the general effect of local irritation confined to limited areas, but which

are freely connected with the entire body through the medium of the sympathetic. While peripheral irritation may be found in any portion of the body, for anatomic reasons the pelvic portion of the sympathetic is of the greatest importance in connection with the study of the reflexes.

The rectum, sexual organs, and pelvic viscera are richly supplied with branches from the pelvic plexus which is formed by the conjunction of the hypogastric plexus and branches from the second, third, and fourth sacral nerves, together with filaments from the sacral ganglia.

These organs, therefore, form an important link connecting the great sympathetic and cerebro-spinal nervous systems.

In 1828 Dr. Kane of Tennessee, asserted that in order to cure inebriety it was necessary to break up the association in the mind of the patient between his suffering, real and imaginary, and the relief obtained by alcohol or other narcotics. In many cases this association may be broken up by rest, seclusion, isolation, drugs, baths, electricity, and other physical agents, but it seems to me that in dipsomania especially, we have in surgical procedures, judiciously employed, a means which will exert a more powerful and permanent effect than any other method at our command.

You are all aware that ordinary surgical operations are sometimes followed by insanity, even in those not predisposed by heredity to mental disease.

Certain factors, which may readily conduce to mental disturbance, are present in any surgical operation. For example: the mental strain, anticipation, the actual operation which may cause pain, bring about relief or entail shock, the subsequent mental reaction whether the operation be successful or not. Among the possible after-effects sepsis, too, must be considered.

Dr. Morris of New York has recently reported a series of cases in which a cure of inebriety followed as a result of

operations performed for the relief of various conditions. Minor surgical measures, when directed to the removal of causes of irritation of terminal sympathetic nerve fibers, will accomplish even more in these cases than the major operations of general surgery, the only effect of which, aside from the mental impression produced, is to favorably influence cell metabolism.

I think we can assume in the case cited above, that the hemorrhoids were a source of irritation leading to nerve waste by exciting and keeping up contraction of the sphincters, for it costs nerve force to contract muscle just as it costs electricity to ring a bell.

Irritation, though caused by slight affections of the rectum, pelvic, or sexual organs, is capable of inducing, if long continued, a most profound nervous depression which, in an individual otherwise predisposed, invariably leads to the use and subsequent abuse of stimulants and narcotics.

The conditions most frequently observed in the study of over two thousand cases were found to be: First, in the order of frequency, rectal disease, hemorrhoids, fistulas, inflamed pockets, irritable papilla, and ulcer and fissure of the anus. Second, in the male, a long, tight prepuce, a short frenum, a contracted meatus, urethral stricture, inflamed or enlarged prostate, and inflammation of the vesicula seminales, either simple or specific. In the female, urethral caruncle, an adherent hood of the clitoris, which may be too short or too redundant, either condition favoring retention of smegma, and thus increasing the local irritation, and, finally, cicatricial tissue, adhesions, neoplasms, and displacements of the sexual organs within the pelvis.

In many of these cases the causative factors in the production of nerve waste may have existed a long time without manifesting any local evidence of their presence, and are only detected by the physician upon careful examination.

Such examination should be imperative in every case

where nervousness persists after the first week's treatment, especially if associated with cold extremities, pain or discomfort in the head, insomnia, and other evidences of imperfect circulation and innervation.

When located in any accessible region of the body these foci of irritation should be removed by appropriate surgical measures. If there be hemorrhoids they should be excised, pockets and papilla removed by scissors so that the mucous membrane will be left perfectly smooth. In the male circumcision should be done when required, the contracted meatus enlarged, the short frenum lengthened, urethral stricture dilated or cut, and the prostate and seminal vesicles properly attended to. In the female, urethral caruncle should be removed, the clitoris freed from adhesions, proper surgical treatment given the uterus, tubes, and ovaries, and thereby place the patient in the best possible condition to receive any additional treatment required.

Such surgical treatment is especially valuable in relapses. After treatment the inebriate will be assailed in his progress toward complete recovery from within rather than from without. The relapse, if it comes, will result from insidious temptation attacking him within his mind, as a result of an enfeebled nervous system long before extrinsic or social causes have any effect upon him.

I will briefly relate the history of several cases treated upon the lines above indicated.

L. W., aged nineteen, was admitted to Park View Sanatorium April 2, 1902, on account of morphine addiction, with the following history:

His father died at forty of alcoholism, mother at twenty-two of pulmonary tuberculosis when the patient was but two days old.

The boy had congenital, double inguinal, and ventral hernia, cleft palate, and weighed but two pounds at birth. His life had been spent under the best hygienic surroundings wealth could procure.

He had two operations for cleft palate by an eminent surgeon three years previous, with only partial success. For eighteen months prior to admission he had daily attacks resembling epilepsy. These attacks were preceded and followed by excruciating pain in the head, arms, and legs, for the relief of which morphine had been freely used, so that upon admission he was taking from four to seven grains daily by the needle.

Patient was constipated, anæmic, very nervous and apprehensive.

Physical examination revealed organic mitral disease, impaired resonance over apex of right lung, rapid pulse, hæmoglobin 60, respirations rapid, shallow, and irregular.

Examination of the sexual organs revealed an undeveloped penis with phimosis, the prepuce being long, tight, adherent, and inflamed. Patient stated that he was annoyed all his life with itching of these parts.

Any effort to retract the foreskin or examine the rectum precipitated one of his attacks, followed by shock and collapse.

After withdrawal of the morphine he was circumcised under local anæsthesia with immediate relief of the epileptoid siezures, not a single attack occurring after the operation.

The subsequent improvement of this patient was phenomenal. During the five weeks that he was under observation he gained twelve pounds, with corresponding improvement in his general health.

In a recent letter the young man states that he is perfectly well, weighs 118 pounds, and is occupying a responsible position in a railroad office, the first work of any kind he ever attempted in his life.

Second, Dr. G., aged fifty-two, suffering from double addiction, morphine and alcohol, applied for treatment Oct. 1, 1897, had been treated twice before at other institutions and each time relapsed in a few weeks, giving as a reason that severe frontal headache compelled the use of morphia.

Upon examination a deflected septum with a large bony spur upon its convexity was found pressing against the turbinates, the nostril of that side being completely occluded.

After a few weeks treatment he was referred to a specialist who, by operation, removed these sources of irritation, with the result that there has been no return of his inebriety, notwithstanding the most serious domestic and financial difficulties.

This report of cases might be extended so as to include every conceivable phase of reflex irritation, but the cases just detailed should be sufficient to indicate the necessity of looking well to the physical side in our study of the inebriate.

It is not intended that surgical measures should supersede other and well-tried methods of treatment, but it should be given its proper place in the management of inebriates, especially those belonging to that class of degenerates of whom Oliver Wendell Holmes said that "when nature has made up her mind that she has had enough of a particular stock, and that its room is better than its company, the work of patching up the constitutions of its offspring and keeping them sober is one of the most desperate tasks assigned to the healers of men."

The New York School of Physical Therapeutics has a place in the study of medicine which is not well recognized. The effort to show the practical possibilities of electricity, hydropathy, thermotherapy, and radiography, and other methods of treating disease, should be encouraged, for only in this way can any of these new methods be tested and known. The various men who are teaching these branches are practically pioneers, and will be followed in years to come by great specialists in these various fields, connected with every university in the country. Sanitariums and asylums have great opportunities to practically test many of these new methods, and some of them are doing it with great success. The field in this direction is a very wide one, and the young practitioner has every prospect of becoming famous in exploration of these new countries that are now practically unknown.

ON THE TREATMENT OF DIPSOMANIA AND
CHRONIC ALCOHOLISM BY HYPNOTIC
SUGGESTION.

BY J. MILNE BRAMWELL, M.B., C.M., London, England.

Since I came to London, about ten years ago, I have treated 76 cases of dipsomania and chronic alcoholism by means of hypnotic suggestion. I propose (1) to draw attention to the general results, (2) to cite illustrative cases, (3) to discuss some points in reference to the morbid conditions involved, and this particular method of treating them.

(a) Recoveries.—Twenty-eight cases recovered; by this I mean that the patients ceased drinking during treatment, and that, as far as I have been able to learn, they have remained total abstainers up to the present date, or to that of the last report received. Although the earliest of these cases has now passed nearly ten years without relapse I should not describe the patient as cured, for it is possible that the disease might return. One of my patients relapsed after eight years total abstinence.

Of the above 28 cases 17 were males and 11 females. The average age was 40. Average number of hypnotic treatments 30. Average length of time since recovery 3 years.

All the patients in this as well as in the two other groups belonged to the educated classes.

(b) Cases improved.—These numbered 36; 26 males and 10 females. Average age 39. Average number of hypnotic treatments 32. Average length of time since treatment $3\frac{1}{2}$ years.

The results obtained in this class varied widely. The best case abstained for eight years, then relapsed, but has now again abstained for six months. In a considerable proportion of the remainder the improvement has been marked and valuable. Several of the patients who formerly led lives of drunkenness are now engaged in useful work, and only drink at rare intervals.

(c) Failures.—These numbered 12; 10 males and 2 females. Average age 43. Average number of hypnotic treatments 20.

In the majority of the above cases it was impossible to get the patients to cease drinking during treatment, which, in 6 out of the 12, was very short. In more than one instance, however, although the treatment was prolonged and carried out under favorable circumstances, no benefit was obtained.

As far as I have been able to learn all the cases of failure that passed through my hands are now either dead or still remain uncured. Several of them left me to go into retreats; but few, if any, derived benefit there.

Recoveries.—No. 1, Dr. ———, aged 32, February, 1893; began taking stimulants at college, and took them regularly afterwards, although rarely in excess till 1888. At that date he had been in practice for two years and was doing well, then had frequent drinking bouts. Despite continued and careful supervision he drank rectified spirits in secret, sometimes several gallons a month. His health suffered greatly, he was often on the verge of delirium tremens, and on one occasion was supposed to have had slight cerebral hemorrhage. He complained of palpitation and angina pectoris, and asserted it was the pain of the latter which made him drink. As his bouts of drunkenness became more frequent and severe, he was compelled to abandon work and to return home. There he became steadier, and his parents purchased another practice for him. At first he did well, but soon began drinking again, and often took narcotics. I was told

that unless I could cure him he would have to give up work and be kept by his parents.

He was hypnotized 44 times from February 21, to April 18, 1893; then he returned to his practice at a distance from town, and I have not seen him since. Shortly after beginning treatment he entirely abandoned stimulants and narcotics, and soon lost all craving for them. He rapidly improved in health and weight, and ceased to complain of palpitation or angina. After passing twelve months without relapse he married. On February 27, 1894, his mother wrote as follows: "The treatment has been completely successful. My son is perfectly well and quite like his old self, sound in mind and body, and without the slightest wish or need to take drugs or stimulants in any form whatever. His practice increases steadily. Could anything be more satisfactory?" About the same date Dr. ——— wrote to say that he had never felt better in his life, and had no desire for stimulants. From then up to the present time I have heard occasionally from my patient or his wife. All the reports are of the same character. He is strong, well, happy, prosperous, and a total abstainer.

No. 2, Mrs. ———, aged 44, November 23, 1894. Family history of alcoholism. From the age of 20 the patient had had frequent hysterical attacks, and for these her medical man prescribed alcohol in somewhat large quantities. After that she took stimulants regularly, and two years later occasionally became intoxicated. At the age of 36 genuine dipsomania appeared; the craving for alcohol became irresistible, and there were frequent drinking bouts. She was hypnotized 30 times from November, 1894, to February, 1895. No stimulants were taken from the beginning of the treatment, and all craving rapidly disappeared. Up to the last report (1901) there had been no relapse.

No. 3, Mr. ———, aged 35, with a family history of alcoholism, had taken stimulants in excess since the age of

18. Marked dipsomania during the last four years. Two attacks of delirium tremens. Treatment was begun in December, 1896, and continued for about two months. The patient abstained from alcohol from the beginning of treatment until his death from accident, three years later.

No. 4, Miss ———, aged 34, February, 1897. Family history of alcoholism. The patient, who began stimulants at 17, commenced to take spirits in 1890. From that date there were frequent drinking bouts, followed by illness, repentance, and struggle. In a typical attack a sudden craving for alcohol appeared. After a short struggle the patient bought one or two bottles of brandy, usually at some railway refreshment bar, took them to bed with her, and drank all night. Sometimes the attack finished by the following morning, at others it lasted a week, and was followed by sickness, nervous prostration, and severe cramp in the legs and feet. Deep hypnosis was easily induced, and all craving ceased at the end of three weeks' treatment. Recovery confirmed by later reports.

No. 5, Mr. ———, aged 37, December, 1898, a cripple, the result of infantile paralysis, had a family history of alcoholism. With the exception of six months, which he spent in a doctor's house, the patient had drunk to excess for many years. He was not easily affected by stimulants, and rarely got into a state of obvious intoxication; he soaked, was sodden, dull, stupid, and listless. He had enough money to live on, and was without occupation, hobbies, or friends. Hypnotic treatment was begun in December, 1898; shortly afterwards all craving disappeared, and the patient became an abstainer. Up to the present date there has been no relapse, and he leads a healthier, more interested, and active life.

No. 6, Mrs. ———, aged 54, January, 1899. The patient's mother drank, and she herself took wine and beer from childhood. In 1885 she began to drink to excess, and five years later dipsomania appeared. There were frequent

bouts of drunkenness, followed by longer or shorter intervals of abstinence. She felt her degradation keenly, and struggled hard against the craving, which was always too strong for her. Hypnotic treatment was commenced in January, 1899, and the patient only took stimulants on one occasion after that date. She is now in good health, and a total abstainer.

No. 7, Mr. ———, aged 33, September, 1900, had a bad family history of alcoholism. He commenced to take stimulants in excess at the age of 18, and had suffered from dipsomania since he was 25. Two attacks of delirium tremens. Five years ago he went through the Keeley cure without good results. When he first consulted me the patient took six or seven glasses of whisky before 9 A. M., and was unable to sign his name until he had done so. He had 21 hypnotic treatments, and ceased taking stimulants after the first, when he narrowly escaped an attack of delirium tremens. Since then he has done good work, and there has been no relapse.

No. 8, Mrs. ———, aged 40, March, 1901, with a family history of alcoholism, had taken stimulants in excess for ten years. Dipsomania began five years ago. During the attacks the patient drank any form of alcohol she could lay her hands upon. She had only nine treatments, entirely abstained after the first, and has not relapsed since.

Cases improved.— No. 9, Mr. ———, aged 40, October, 1891, had a family history of alcoholism, and had long taken spirits too freely. For the last four years his drinking bouts had been frequent and severe. He suffered from insomnia, digestive troubles, lightning pains, and walked badly—his feet seemed encased in wool, and he had difficulty in feeling the pavement. A well-known specialist told him he had locomotor ataxia and was incurable. Hypnotized 15 times. Result: Six months' abstention from alcohol, with marked improvement in general health and nervous symptoms. In-

somnia then reappeared, and he took alcohol occasionally and narcotics (generally sulphonal) regularly. After six weeks' renewed treatment in the autumn of 1892, he remained an abstainer for three years, and the ataxic symptoms entirely disappeared. Later he again took narcotics regularly and stimulants occasionally, and died suddenly from cardiac syncope.

No. 10, Mr. ———, aged 47, April, 1895. Father and mother drank to excess. The patient, who lived in Australia, commenced drinking when at Oxford, and had done so ever since. He married in 1876, and was frequently intoxicated during his honeymoon. In 1878 he had his first epileptic fit, followed by six others at prolonged intervals. There had been three attacks of delirium tremens, the first in 1879. He not only had frequent excessive drinking bouts, but also took stimulants regularly, except when ill after an unusually bad attack. He always got drunk when he visited his station, and only returned home sober four times out of one hundred and fifty. He came to England in 1895, and had an attack of delirium tremens just before beginning treatment in April, 1895. He was easily hypnotized at the first attempt, and at once became a total abstainer; but the treatment was continued for two months. He then went back to Australia, fought a keenly contested election without touching stimulants, and gained a seat in Parliament. There was no relapse until the autumn of 1898, when he began to take stimulants occasionally. He returned for further treatment on January 9, 1901. He was again easily hypnotized, and at once gave up all stimulants. There has been no return of the epilepsy.

Failures. — No. 11, Mrs. ———, aged 40, September, 1893, with a family history of alcoholism, had suffered from dipsomania for seven years. After a fortnight's treatment, during which time the patient took stimulants regularly, and became intoxicated on more than one occasion, the treatment was abandoned.

No. 12, Mr. ———, aged 32, December, 1893, with family history of alcoholism, had taken stimulants in excess since the age of 18. Well-marked dipsomania during the last five years. The patient was seen on four occasions, but, as each time he presented himself in an intoxicated condition, the treatment was abandoned.

In addition to cases reported by other observers in this country successful ones have been published by Knory, Farez, Vlavianos, Bourdon, Bechterew, Ribokoff, Bushnell, Voisin, Ladame, Forel, Tatzel, Hirt, Nielson, de Jong, Bernheim, van Eeden, van Renterghem, Hamilton Osgood, Wetterstrand, Schrenck-Notinz, Krafft-Ebling, etc.

For example, de Jong reported that he had treated many cases, some of which had now remained over three years without relapse. Hirt claimed to have had eight complete recoveries out of thirteen cases. Wetterstrand cited the case of a man who, for several years, had taken a bottle of brandy and injected 30 centigrammes of morphia daily. Recovery took place after thirty-four treatments, and there had been no relapse. Voisin published numerous successful cases, some of them being women over forty years of age. He traced the subsequent history of many of them, and reported years later that there had been no relapse. Ladame drew special attention to three cases treated by Forel; all of them had suffered from chronic alcoholism and attacks of delirium tremens, and had long been inmates of his asylum. They were extremely difficult to manage, and expressed their determination to resume drinking as soon as they were liberated, but, despite this, complete recovery followed hypnotic treatment.

Some points in reference to the morbid conditions involved, and their treatment as hypnotic suggestion.—As the majority of my patients suffered from dipsomania, I wish to say a word as to that condition, and the differences between it and ordinary alcoholism. A typical case of the

former presents the following phenomena: The patient while abstaining, begins to be haunted with ideas about drink. This is soon followed by the desire for drink, but at first the impulse is combated by the will. It soon, however, becomes irresistible, and after the first glass is taken the craving is increased, and the struggle is abandoned in despair. The patient then drinks for a varying period, after which the craving suddenly disappears. This stage is followed by one of physical weakness accompanied by remorse. These conditions in their turn disappear, and the patient enjoys a period of more or less complete health and comfort, undisturbed by any morbid craving for stimulants. This passes, and a new attack begins, which follows the course of its predecessors.

The existing causes of dipsomania. — In many, but by no means all my cases, there was a family history of alcoholism. It is difficult to determine, however, what part this played in the production of the dipsomania, as I have also known many instances where drunkenness in the parents was followed by total abstinence in the children. On the other hand, all the dipsomaniacs I have observed showed symptoms of degeneracy; most of them were impulsive, nervous, emotional, sensitive, and thus more or less ill-balanced mentally.

An accidental circumstance, usually some mental trouble, is generally the immediate exciting cause of the first attack. Similar causes may excite subsequent ones, but when the disease is fully developed its manifestations occur at more or less regular intervals, and often without any discoverable immediate exciting cause. I do not know, however, of a single case in which dipsomania has been suddenly aroused, no matter by what cause, in those who till then had been total abstainers. In all there was a previous history of the use of alcohol.

Differences between dipsomania and other forms of intemperance. — Many persons who are strong, both mentally

and physically, habitually take too much alcohol. They do so on account of the physical or mental comfort it brings. Usually they do not struggle against their self-indulgence until it begins to endanger their health, pocket, or reputation. The dipsomaniac, on the other hand, drinks because he is impelled to do so against his will. Drink, though it may have been enjoyed previously, now gives him neither physical comfort nor mental pleasure, and he struggles through an attack like a felon working out his sentence.

The moral condition of the average inebriate differs widely from that of the ordinary dipsomaniac. Shame is often sadly lacking in the former, while the dipsomaniac, on the contrary, feels his degradation keenly. Finally, the drunken bouts of the dipsomaniac, unlike those of the ordinary inebriate, are rarely associated with other excesses.

PROGNOSIS.

According to Ladame the prognosis in dipsomania, especially where there is a family history of alcoholism, is an extremely grave one, and prolonged retention in an asylum or a retreat rarely yields good results. He admitted that total abstinence societies did valuable work, but considered their method of treatment somewhat analogous to the hypnotic. When they succeeded the patient was generally under the influence of religious ideas, proposed and received *au moment psychologique*, while he was in a condition of remorse and despair. The solemn vow which he made to abstain from drink was also a powerful self-suggestion. If the subsequent circumstances were favorable, and his friends rallied round him and encouraged him in every way possible, there was a chance of his being cured. On the other hand, many dipsomaniacs were not responsive to religious or ordinary moral influences. These cases were not likely to receive benefit from total abstinence societies and similar means, but often recovered under hypnotic treatment.

The following are the most important points:

1. The patient must be willing to be cured. Difficulties as to this are more frequently encountered in cases of chronic alcoholism than in dipsomania. Even the latter patients, however, sometimes dread treatment, as they think it may raise an artificial barrier between them and drink, and yet leave them fighting with the craving. Probably, also, they have been told that hypnotism is dangerous, and will rob them of their will power. These fears are usually dispelled by means of a little tact and explanation. The patient must be made to understand that the object of the treatment is to remove the craving. That the force of the volition is increased, not diminished, by hypnosis, and the use of hypnotism for medical purposes, in skilled hands, is absolutely devoid of danger. For instance, Forel asserted that neither he, nor Liebeault, Bernheim, Wetterstrand, van Eeeden, de Jong, Moll, and the other followers of the Nancy school, had ever seen a single instance in which mental or physical harm had been caused by hypnosis. No complete record of their cases has been published, but the number certainly exceeds fifty thousand. Later, Forel informed me that he still held this opinion, and had never observed even the slightest inconvenience from hypnotic practice. Further, I have watched the work of nearly all of those cited by Forel and have seen nothing opposed to his statements.

2. Susceptibility to hypnosis is a varying and important factor. Most authorities agree that all, except idiots and those suffering from certain forms of mental disease, can be hypnotized. On the other hand, the ill-balanced are usually difficult to influence; time and trouble are often requisite, and frequently slight hypnosis alone can be induced. Fortunately deep hypnosis is not essential to the production of good therapeutic results.

3. In dipsomania one ought to begin treatment at the commencement of a period of quiescence, and aim at prevent-

ing, or at all events retarding and weakening, the next attack. When stimulants are taken continually the patient must be helped and encouraged to reduce them as speedily as possible, and then stop them altogether.

4. The management of the patient during the earlier part of the treatment, before suggestion has taken effect, is important. If possible, he should never be left alone, but always have near him some trustworthy person to whom he can confide his temptations and turn for aid in overcoming them. As restraint had proved useless in all the cases which have come under my notice I have never employed it. Doubtless it might have proved a help at the commencement of the treatment, but its moral effect is invariably bad.

5. The operator must be persevering and not easily discouraged. Many persons who ultimately do well relapse more than once during treatment.

6. A distaste for alcohol ought to be suggested, as well as the abolition of the craving for it. The patient must be made to understand that he can never look forward to being a moderate drinker, and that the only choice before him lies between total abstinence or the gutter.

7. Even when the craving disappears quickly, the patients ought to be hypnotized regularly for a month. If they can be seen from time to time for the next six months so much the better and safer.

8. The object of the treatment is not only to cure the diseased craving, but also to strengthen the will of the patient and help him to combat the temptations of social life. The latter point is important. Some patients forget what they have gone through, and although they have no diseased craving, yield to ordinary temptation. If the patient has not gained the power of controlling himself, the treatment has failed in its object, for self-control, not artificial restraint, is its essential feature.

In conclusion, while claiming that the results I have cited

are encouraging, I think that one may reasonably hope that hypnotic treatment may yet yield more satisfactory ones. On the one hand, it is to be noted that our knowledge of hypnotism is yet extremely imperfect, and that it is only within recent times that it has been the subject of genuine scientific research. On the other, the majority of my cases were extremely unfavorable ones. In most instances, before they were brought to me, all other methods had been tried — ordinary medical treatment, restraint, gold cures, and the like. One of my patients had been three times under restraint, once for twelve months at a stretch. Another passed a year in a retreat under the Act, came out, immediately had a bad drinking bout, and was induced to sign on again. This process was repeated, and, when he came to me, he had passed three years under restraint, and had only had a few weeks' freedom — spent in drunkenness.

The groundless fears as to the alleged dangers of hypnotism were largely responsible for the fact that patients were only brought to me when all other methods had failed. When the value of hypnotic treatment and its freedom from danger are more fully recognized, doubtless it will be employed in earlier stages of the disease, and invariably before having recourse to prolonged restraint. When this day comes, with improved methods and less difficult cases, the result ought to be still more striking.

Statistics show that out of the total of London's curable drunkards — offenders who have been convicted more than ten times — 8,900 are women and 4,300 men. In twenty years the deaths of women from chronic alcoholism increased over 145 per cent.

INSANITY FROM HASHEESH.

BY JOHN WARNOCK, M.D.

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There seems reason for believing that *Cannabis Indica* has a peculiarly toxic action on certain individuals. In the *British Medical Journal* a case is mentioned of a boy of twelve years of age who suffered from grave toxic symptoms after a dose of ten minims of the pharmacopœial tincture of *Cannabis Indica* thrice daily; yet similar doses from the identical preparation given to another child produced no bad effects. Other similar cases have been recorded from time to time, and one wonders whether this peculiar susceptibility of certain individuals to the toxic action of moderate doses of *Cannabis Indica* may not partly explain why in Egypt, where many thousand smoke hasheesh, only a comparatively few suffer from grave toxic symptoms.

Let us now examine the results of the use of hasheesh in Egypt, where large quantities are used by the inhabitants of the towns, although the importation of the drug is prohibited by law. The fact that about sixteen tons of hasheesh were confiscated during the year 1901 gives some indication of the extent of its use. Most of the drug is consumed by smoking in the gozeh and in cigarettes, but a considerable amount is eaten in pill form and in sweetmeats, magoon, etc.

The usual reason given by patients for using hasheesh is that it induces a general feeling of pleasure and content. It is also alleged that it increases the appetite for food, also the sexual appetite, and relieves feelings of lassitude and depres-

sion. When eaten in pills and sweetmeats it seems to be taken chiefly for aphrodisiac purposes.

Probably, as in the habit of opium, alcohol, coca, and tobacco, etc., hasheesh is primarily employed on account of its euphoric effects on the nervous system. The need for some such agent exists in almost every race of human beings, especially among the males; local conditions of climate and topography, race traditions, etc., cause variations in the agent selected.

Popular opinion disapproves of the use of hasheesh. Even its moderate use is condemned by the better class of Egyptians; the habit is considered as degrading as secret drinking is with us. The low associations of the habit are partly responsible for the ill-favor with which it is regarded, but without doubt the real reason for its condemnation is the fact that hasheesh users degenerate morally, and therefore all decent people feel bound to hold up the habit to reprobation. From a religious point of view the use of hasheesh is prohibited just as much as alcohol by the Mohammedan creed.

Hasheesh appears, nevertheless, to be used by certain Mohammedan religious teachers as largely as by laymen.

The diagnosis of insanity from hasheesh depends on the history of the case and the patient's statements. The police certificate frequently gives information as to the existence of the habit; but, unless this is confirmed otherwise, such evidence is disregarded in making the diagnosis of hasheesh insanity.

The discovery of hasheesh in the patient's clothing, or concealed in his ears or mouth, occasionally betrays the nature of the case. On admission every male patient is questioned with regard to hasheesh, and a report made on the amount he takes and his attitude towards the charge; excited protests and denials of the habit are known by experience to indicate a hardened hasheesh smoker. As the mental state of the patient improves he is again questioned about hash-

eesh, and before discharge he is invited to give full details of his habit. By comparing the repeated statements and by noting his knowledge or ignorance of the various details of hasheesh smoking, such as the price of the gozeh, the different qualities of the drug, etc., it is not difficult in most cases to form an opinion as to whether the case is one of hasheesh. The evidence of relatives is occasionally of use, but is less reliable than the repeated cross-examination of the patient; numbers of the Cairo cases are known to be frequenters of hasheesh cafés from being seen there by hospital employees.

Insanity from hasheesh belongs to the toxic group of insanities, and, like insanity from alcohol, opium, cocaine, etc., has an exogenous toxic cause.

The clinical types of hasheesh insanity vary, but before describing them it will simplify matters to enumerate those met with in alcoholic insanity as follows:

1. Ordinary alcoholic intoxication, short in duration; with symptoms of excitement and violence, stupor, exaltation, and various ataxic and paretic phenomena; occasionally real transitory mania.

2. Delirium tremens, of longer duration; numerous hallucinations, especially visual; oblivious, restless delirium, melancholic in tone; delusions of fear; motor phenomena, tremors, etc.; usually curable.

3. Alcoholic mania of various degrees of acuteness; no complete delirium, hallucinations chiefly auditory; maniacal, changing delusions of exaltation or persecution; restlessness and violence; no tremors usually; often curable.

4. Chronic alcoholic mania, including alcoholic mania of persecution; suspicion, jealousy, hallucinations of hearing and taste; delusions about tortures, machines, conspiracies, poisoning, wires, etc.; there may be ideas of grandeur or altered personality; often suicidal and homicidal impulses; motor and sensory phenomena occur; usually incurable.

5. Alcoholic dementia, often with gross organic brain-

lesions or with hemiplegia, paresis, etc.; loss of memory, mental facility, loss of interest, dull, apathetic demeanor; various motor and sensory phenomena occur.

6. Dipsomania.—This term is used to express the craving for alcohol, and nearly all the foregoing types occur as the results of giving in to this craving. Between his outbreaks of mania or delirium tremens the dipsomaniac usually shows some mental and physical impairment, especially in the direction of blunted moral feeling. He is usually a practiced liar, reckless in his methods of obtaining money to gratify his cravings, careless of the claims of relations on him, lazy, dishonorable, often shameless, and often incurable.

Non-nervous results of alcohol.—Almost every organ in the body shows pathological results of alcoholism which need not be enumerated here. Now let us consider the result of using hasheesh. Insanity from hasheesh gives the following types:

1. Temporary intoxication.—The smoker of hasheesh becomes dull and drowsy, he feels pleasantly exalted, and the worries of life are temporarily blotted out; fatigue is no longer felt; he is at peace with the world. The drug acts as a stimulant and sedative. This state is to be observed among the habitués of hasheesh cafés; such cases do not come to the asylum, though patients recovering from the graver forms of hasheesh insanity often describe what were their feelings during temporary intoxication. Pleasant half-waking dreams, not unlike those of the opium taker, gently occupy the mind, and often the individual feels that he is temporarily some important personage. The active excitement of alcoholic inebriety is uncommon, but if the hasheesh smoker is annoyed or interfered with during his dreams he is liable to become irritable and excited, and to show loss of self-control. A staggering gait makes the condition not unlike that of alcoholic intoxication, while the pleasant, dreamy state approaches that of the opium smoker.

Contrasting the three intoxications, one may say that the mental pose of the hasheesh smoker is more "subjective" than that of the alcoholic, and less so than that of the absorbed opium user. The alcoholic is the most "objective" and demonstrative of the three.

2. Delirium from hasheesh, which is accompanied by hallucinations of sight, hearing, taste, and smell, often of an unpleasant kind. Delusions of persecution often occur. The idea that the subject is possessed by a devil or spirit is common. Great exaltation and the belief that the individual is a sultan or prophet may occur. Suicidal intentions are rare. The restlessness and sleeplessness of these cases are marked features, but usually they do not approach the unending chatter and continued busy movements of the subject of delirium tremens, nor is the absorption in delirious ideas and hallucinations as complete as in the latter. The motor phenomena of delirium tremens, tremors, and ataxy are absent; although some staggering is occasionally noticeable, usually the patient is active and quick in movements. The physical exhaustion and gastro-intestinal and hepatic disorders of delirium tremens do not occur. Hasheesh delirium is a less grave state both physically and mentally. Some cases are stuporous in type.

3. Mania from hasheesh.— This varies in degree of acuteness from a mild, short attack of excitement to a prolonged attack of furious mania ending in exhaustion or even death. Most cases are exalted, and have delusions of grandeur or of religious importance; persecutory delusions occur frequently, and provoke violence towards others, but not suicide. Restlessness, incoherent talking, destructiveness, indecency, and loss of moral feelings and affections are all ordinary symptoms. A certain impudent dare-devil demeanor is a characteristic symptom. Hallucinations are not so marked as in alcoholic mania, but those of hearing and taste are not uncommon; delusions of being poisoned are often based on the latter

variety. A few cases are more melancholic than maniacal in demeanor, and exhibit extreme depression and terror with hallucinations of hearing (threatening voices, etc.). There is no pathognomonic symptom of hasheesh mania, but the transitory nature of many cases is often a guide.

4. Chronic mania from hasheesh, including a form of mania or persecution. Many of these cases are not distinguishable from ordinary chronic mania. Hallucinations are not so frequent as in alcoholic chronic mania. The patient is a happier, less worried individual than the alcoholic chronic maniac. The morose, suspicious, jealous demeanor of the alcoholic, his belief in machines, invisible wires, any mysterious tortures, are absent, also his motor and sensory troubles. His suicidal and homicidal tendencies are also usually wanting.

5. Chronic dementia from hasheesh describes the final stage of the preceding forms. We find no motor or sensory symptoms as in alcoholism; there are loss of memory, apathy, degraded habits, and loss of energy, as in ordinary chronic dementia.

6. The term cannabinomania may be employed to describe the mental condition of many hasheesh users between the attacks of the above forms. The individual is a good-for-nothing, lazy fellow, who lives by begging and stealing, and pesters his relations for money to buy hasheesh, often assaulting them when they refuse his demands. The moral degradation of these cases is their most salient symptom; loss of social position, shamelessness, addiction to lying and theft, and a loose, irregular life, make them a curse to their families. While in the asylum they are notorious for making false charges, refusing to work, and quarreling. Some deny using hasheesh, but others boast of its stimulating effects. They often have an inordinately high opinion of themselves. They are loud in their complaints of oppression by the police, and emphatically protest their innocence of any misdeeds. Irrita-

bility, unconcern as to the future, loss of interest in family, malingering, continual demands for cigarettes, urgent petitions for release, fervent promises of reform, emotional outbursts when refused their demands, garrulity, abusive threats alternating with extreme servility, are all marks of this state. These patients do not often ask for hasheesh while in the asylum, but occasionally procure it by stealth, though the craving for it does not appear to be so keen as that of a dipsomaniac or a morphinomaniac. No phenomena of "deprivation" are noticeable as in the latter disease, and therefore the cessation of the habit should be easier than in the case of alcohol or opium, and I believe that it is actually easier.

In the early stages these individuals are usually regarded as criminals, and their moral lapses land them in jail. Later on, when their intellectual impairment becomes more marked, they are sent to the asylum.

The similarity between this condition and that of the dipsomaniac is evident; many of the differences are probably due to racial peculiarities.

Contrasting, generally, hasheesh insanities with those produced by alcohol, the following points stand out:

1. Suicidal intentions are common among alcoholics, rare among hasheesh cases. How far this may be explained by differences in race and religion one cannot say, but it is to be borne in mind that suicide is rare among the insane of the Arab race and Mohammedan religion.

2. Hasheesh, in Egypt, seems to be a more important factor in the production of insanity in that country than alcohol is in England.

3. As a cause of crime hasheesh appears to be as important in Egypt as is alcohol in England.

4. The use of hasheesh, unlike that of alcohol, is not followed by any characteristic anatomical lesions, and no physical disorders are known to result from it. I have not

found asthma and bronchitis to be specially common among hasheesh smokers; only the physical disorders and lesions met with in the idiopathic insanities occur in insanity from hasheesh. The only exception to this rule being the staggering gait of hasheesh intoxication and delirium.

THE SCHOOL AND THE ALCOHOLISM.

The Holland Society for Total Abstinence has made some studies about the influence of alcohol on the work of school children. Of 1,790 children 75 were steady users of alcoholic beverages; 1,262 used them occasionally and 453 were total abstainers.

Among the 75 regular drinkers going to school 11 were excellent, 30 were good, and 34 fair in marks for their studies. Among the 1,262 occasional drinkers received 298 were excellent, 666 good, and 298 fair in their studies.

Among the 453 total abstainers the marks showed 157 excellent, 221 good, and 75 fair. In percentage of marks, the following table is given:

	Excellent.	Good.	Fair.
Regular drinkers,	14.7	40	45.3
Occasional drinkers,	23.5	52.8	23.6
Total abstainers,	34.6	48.8	16.6

It is thus proved that regular use of alcoholic beverages has a harmful influence upon the children's studies, and again, total abstinence a very beneficial influence. — B. E. H.

Dr. Clouston in the last report of the Royal Edinburgh Asylum says, "The cause of insanity for the past year which stood the highest in the list was intemperance from drink. Twenty-eight per cent. of all admissions were due to alcohol. It is a sad and discouraging prospect, that this most preventable cause of disease should continue to increase."

INEBRIETY IN ANCIENT EGYPT AND CHALDEA.*

BY T. D. CROTHERS, M.D., Hartford, Conn.

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There is something startling in the revelations from the tombs and papyri of ancient Egypt, disclosing the history, social life, and thought of a people who lived 5,000 years ago. The religion of that ancient civilization taught that the body must be preserved and cared for after death, so that the soul in long ages could come back and take possession of the tabernacle which it vacated at death. The magnificent monuments, tombs, and the temples where the dead were buried, covering hundreds of miles of country, were made the receptacle of inscriptions, carvings, pictures, and papyrus rolls containing a history of events in the lives of the dead and the political and religious thought of that day. The climate with its dry air, the hot sun, and the drifting sand have preserved these records of that ancient civilization down to the present with but little change. Miles upon miles of these houses of the dead have been buried deep in the sand for long ages and are yet uncovered. Only a few excavations have been made, but these bring to light remarkable descriptions of habits and social life in that far-off time. Many of the papyri are autobiographical histories of the kings and other mummies, and seem to be written by themselves, and like biographies of that class relate to the good deeds and events of the actor with no reference to his mistakes or errors. The inscriptions and references which we

* Read at the annual meeting of the American Association for the study of Inebriety, Boston, Mass., Dec. 18, 1902.

have grouped extend back 1,000 years before the reign of the Pharaohs in which Moses and Joseph were prominent. Egypt was then at its zenith, and its civilization was at its highest point. A thousand years after, when the Rameses were so prominent, the nation was in a period of decadence.

Egypt is particularly a dry and very thirsty land where both barley and grapes grew very luxuriantly in ancient times, hence beer and wine were largely made and used. Life 5,000 years ago was like that of today, full of excitement and unrest. Wars, and the building of temples and tombs, and developing the resources of the empire, with the constant political changes, produced much the same conditions as at present. The strain and stress of living, and the surroundings, were followed by the same exhaustion and desire for rest, which found relief in wine and beer and the juice of the poppy.

Egypt was also a land of banquetings and the celebration of feast-days and religious rites and sacrifices. Wine and beer were the drink offerings made to the gods. These, with great quantities of provisions, were brought to the temples on feast days and laid on the altars. It was supposed that the gods and the spirits of departed ones came back and partook of the essence of the foods, after which it was distributed to the priests, attendants, and temple worshipers. It is mentioned that on one occasion 10,000 jugs of beer and 5,000 vases of wine were offered up to the gods. This was all drunk by the priests and worshipers, and the intoxication which followed is mentioned casually as a common event. On another occasion, a king donated the product of 500 vineyards where grapes were grown and wine made, as a special offering to the gods. In the tomb of another king, among the great virtues is mentioned the fact that he gave for sacrificial offering 200,000 jars of wine and half a million jugs of beer during his reign. An envious man writes on one papyrus that the drink offering in the city of Thebes far

when it came back to look after the body. These wine jars, particularly in the tombs of the monarchs, were covered with elaborate inscriptions of the manufacture of wine, the culture of grapes, and the history of events of the times. On one of these vases, now in the British Museum, which I saw two years ago, was the name of the monarch who lived 4,000 years ago, and the statement that the wine was made from white grapes and that the king had suppressed the growth of this kind of grapes except in the royal vineyards, and that the evil spirit never appeared after drinking this wine. On another vase is a story of a great battle between the kings of upper and lower Egypt, during which beer from 7,000 jugs mixed with the blood of prisoners and slaves was emptied over some fields where the enemy marched. The result was that the rival king and his followers drank this beer on the field and thenceforth became like little children, and were finally destroyed. While both beer and wine were used to propitiate the gods and as offerings of worship, their injurious effects were recognized and many efforts were made to check its indiscriminate use among the common people. On one of the tombs of a priest is a prediction of the doom of the nation and the desertion by the gods, if wines and beers continued to be drunk by all classes. Another tomb contains an equally ominous prediction and declares that small quantities of wine and beer may clarify the soul and give it greater power in the other world, while if larger quantities are used it will stupefy and chill the spirit and keep the soul in places of torment. On another tomb, the cause of excessive drinking is said to be the possession of bad spirits, particularly of loathsome animals. To this is added the very significant statement that the excessive use of spirits brings on stupor and causes the victim to fall down, breaking his head, and thus liberating the spirit from the body before the gods want it. At various times efforts were made to suppress the excessive use of spirits. Different monarchs,

when temperate and abstinent themselves, passed strenuous laws forbidding its use only on public occasions and in the temples. Others who drank freely encouraged its use without restrictions. Some of these efforts to suppress the use of alcohol have a very modern sound. On one occasion all sales of wines and beers were prohibited except in shops on side streets away from public observation, and the dealer paid a high tax for the privilege and was forced to provide clean rooms and places for persons who became intoxicated or to take them home at his own expense, particularly after nightfall. Poor people who drank and were boisterous were fined heavily and made slaves to the government until the fines were paid. Rich people had their property confiscated when they persisted in drinking to excess in public and making themselves disagreeable. On one inscription is an account of a certain king who prohibited beer to his soldiers on the eve of battle. Another statement on the same papyrus is made that nothing but bread and water could give courage and strength to soldiers in a march. An incident was mentioned that after a victorious battle the king and his army made a great drink offering to the gods. In the midst of their joy and stupor from drink the enemy returned and a frightful slaughter followed. Later an edict was made that no wines or beers should be used in the campaign or no offerings to the gods until after they had returned home. Wines and spirits were kept in the homes of the wealthy in specially built rooms where they could be drunk in secrecy, and on some of the mummies are distinct references to excessive use of spirits as the cause of death. In those days the priests acted as physicians. One of the tombs describes its occupant as having been skilled in the treatment of madness following the use of wine. He was, no doubt, the first specialist to treat inebriety and the drink disease. On another tomb is the statement that the occupant had a house where persons who were mad from wine

and beer could be protected. This was practically the first inebriate asylum, back at least 5,000 years ago.

Another mummy was a favorite in the family of a drinking king. He was court physician and priest, who boasted that by his efforts and skill he was able to keep the monarch from drink madness. Numerous pictures and inscriptions on the walls of the tombs give some idea of the methods of treatment for drink excess, which appear to be that of making sober intoxicated persons. Some of these pictures show persons being brought home by their slaves from the temple or banqueting hall, and of forcing fluids down the stomach through funnels, followed by vomiting; also the giving of enemas followed by purging. In one instance the victim, evidently intoxicated, was held up while streams of water were poured on his head and back. Another picture shows a man covered with some robe. From the openings in the folds vapor is escaping, suggesting a steam bath, probably made by putting hot stones in water. Rubbing, kneading, flagellation, and pressing the body are also shown as practical remedies in drink excesses. Some of the papyri give quite minute accounts of the drinking habits and life of the mummy, from which it appears that mercury and salts were common remedies. Women appeared to have drunk as freely as the men.

Some of the pictures show banqueting halls in which women are evidently intoxicated, either in the hilarious state or stupid. In this condition there seems to be great derangement of the headdress and the robes falling from their shoulders, showing that they were past the period of proprieties. Later they are seen vomiting and carried out by attendants. A strain of one of the popular drinking songs sung or chanted on these occasions is as follows:

“Let song and music be made before thee,
Cast behind thee all cares and mind thee of pleasures,
Till cometh the day when we draw towards the land
That loveth silence.”

Opium inebriety undoubtedly took its origin back in the ancient Egyptian times. Poppies were grown in the valley of the Nile, and its use for producing sleep was known. One of the inscriptions calls it a bridge on which the soul passes over to the home of the gods and then returns. Poppy leaves were gathered and made into pillows upon which the head rested, the odors of which caused stupor and sleep. One inscription calls the poppy a flower of the gods, given to produce rest and quietness. Another reference calls it the gateway to the other world. It was probably used for its sleep producing effects, although one inscription on the tomb of a priest calls it a very dangerous flower, the juice of which dries up the humors of the body. Another inscription speaks of its effect on the vision, and describes a king who slept continuously for many years and whose sight was much impaired. He used the bruised leaves and buds of the poppies mixed up with the wine he drank. In some of the later dynasties of Egyptian civilization, a thousand or more years before the Christian era, there was a discussion as to the virtues of the juice of the poppy grown about Thebes and that grown in Persia. One was called Persian meconium and the other Thebic meconium. One author called the Persian opium inferior because it produced crudities in the stomach, while the Thebic opium was soothing. The discussion extended to the question of which was the strongest, the juice of the white or the colored poppy. Another curious fact is mentioned in the early Grecian civilization of the great difference in price between the Egyptian and Persian opiums. It was evidently used to produce sleep, and was a remedy connected with religious services and had some spiritual importance. While the use of wine and beer made from native grapes and grains has long since disappeared the poppy is still grown in the valley of the Nile and used as a remedy for pain and suffering. The uncovering of the ruins of the temples of the ancient Chaldean and Babylonian civili-

zations in the Euphrates and Tigris valleys gives intimations of similar battlings with alcohol in those early days. Grapes were cultivated and wine was the common drink. The cuneiform characters on the bricks dug up at Neppo tell the same story of intoxication and drunkenness and the efforts to correct it.

About the same remedies and means were used to make the victim sober as in Egypt, and some of the bricks give bills of charges for services rendered on such occasions. Dashing cold water over the victim and whipping him with brushes was a common remedy. One king seems to have made an offer of great preferment and large sums of money to the courtiers who would abstain from spirits. A certain prince took the prize and soon after became intoxicated. The king ordered his instant death, and gave his opinion that such a man was unfit to live. On another occasion, a prince took some borrowed funds and made a feast to his friends, in which they all became intoxicated. The whole party were executed by the king. On one of the bricks is the very familiar statement which we have heard so much of lately, that a certain priest had discovered a medicine for drink madness which he would sell for a certain sum of money to any one. Evidently, the specific discoveries have been antedated by several thousand years, and probably in further researches we shall find this specific remedy which was sold for money in those early days. Numerous references are made to kings who became dissipated and were killed by their rivals. A noted priest and physician was said to have given a certain monarch a drug which enabled him to drink only so much without being intoxicated, so that he was never overcome by his enemies in a stupid state. This incident is materialized in the recently advertised remedy by which one can drink in moderation and never be intoxicated, but like the old Babylonian remedy it is a secret, and requires a large consideration to obtain it. Babylon was more of a

commercial nation than Egypt, and so far the history from the cuneiform characters on the bricks have reference to bargains and sales of property with only incidental mention of wine and its abuse. There were saloons or places for the sale of wines in ancient Babylon, and the keepers paid taxes on them, and men who drank to excess were punished by whipping or made slaves. The bricks from the ruins of Chaldea and the rolls and inscriptions from the tombs of Egypt are accumulating very rapidly, and years will elapse before they can be all read and tabulated. From the present very fragmentary accounts and broken statements of life and times in these old civilizations it is evident that alcohol and the injuries following its excessive use were very vital subjects, and it is not improbable that many of our present efforts to check and correct this evil are mere repetitions of what was done ages ago. "Verily, there is nothing new under the sun."

TRAMPS AND ALCOHOLISM.

Dr. Williams, the great psychologist in Heidleberg, has lately published a work about the mental conditions of tramps. He says that only fifteen per cent. of them are tramps. He says that only fifteen per cent. have sickness or family trouble to blame for their condition. He calls attention to the great difference in intelligence between tramps and criminals. The latter are active and cunning, the former dull, lazy, and show lack of intelligence. The greatest number of them are alcoholists or about 70 per cent. Next comes the epileptic. During the paroxysms they get the mania to walk and are then found as tramps on the roads. Many are insane. The alcoholists among the tramps are often not what we call drunkards, but a steady use of alcohol has made their minds partly unbalanced and deprived them of their will power. — B. E. H.

STATIC ELECTRICITY IN TREATMENT OF MORPHINISM.

BY A. J. PRESSEY, M.D.,

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Electricity, while not old in medicine, cannot be considered new. One of the first advocates of static electricity as a medical agent, I believe, was John Wesley. While endeavoring to educate the people to his ideas of a religious life he spent some time writing and teaching how to apply static electricity for the relief of pain and the cure of certain diseased conditions. He must have given the subject considerable thought and study, for much of his advice is as good as that of any of the writings we have at the present time. While there is no doubt in my mind that static electricity may be used to advantage in nearly all forms of neurotic troubles, I shall confine myself in this short paper to its use in the treatment of morphinism.

There is no royal road to the cure of drug addictions. There are no specifics, so that every agent that can be found that is of service in some or all of the cases treated is of value and should be utilized as the conditions of the patients require. In nearly every newspaper and magazine, and I am sorry to say that too often in medical journals, we find advertised a sure cure for morphine and other drug addictions where the patient will find freedom from further necessity of the use of the drug in from one to ten days. I have investigated some of them during the past ten years and found them all to be cures that do not cure. Nevertheless,

most cases of morphinism can be permanently cured. But, as in the treatment of other neurotic diseases, we must have time, the coöperation of the patient, employ any and all agents that have been proven to be useful, and then with the tact and skill that comes with reading and experience every patient can be freed from the addiction, and a large majority can be kept more comfortable during their entire treatment than while taking the drug themselves. I have no faith in either the sudden or rapid withdrawal methods. I have known of many patients treated after each of the above methods and I have yet to find the first case that did not relapse within a very short time after treatment. While I do not doubt that some have been cured permanently by each of the methods, it would appear to me that the percentage must be smaller than by the gradual reduction method, or I would have been able to have found at least one person in all these years who had not relapsed.

Static electricity is in no sense a specific or cure for the morphine addiction, although there are many uncomfortable symptoms that arise during the treatment of some cases that can be relieved with the static machine, for which I was formerly obliged to give an increased amount of morphine. A frequent symptom complained of when the dose of morphine is a little small is nausea or vomiting or pain at the epigastrium. Nearly always this can be relieved and the patient kept comfortable until the next regular hour for giving morphine, unless there has been too large a reduction made in the dose given. For the relief of the symptom place the patient on the platform which is connected with one of the prime conductors (I do not care which), then with a brush or single point metal electrode connected with the other prime conductor throw a sharp breeze or spray, or if that does not relieve the pain or nausea some small sparks directly over the epigastric region. The treatment should be continued for about ten minutes or until the symptom is re-

lieved, and should the symptoms return repeat the treatment as often as necessary to keep the patient comfortable, which can many times be done and thereby save giving an extra dose of morphine unless, as I have already said, there had been too large a reduction made in the previous dose. Another frequent symptom is a peculiar nervous sensation of the legs, described by patients as pulling of the muscles, which, if not relieved will amount to a severe pain and cramps. I have often been able to relieve this symptom with the use of the breeze or spray and prevent giving morphine. Burning of the feet and legs can often be relieved. Headache is of frequent occurrence and can nearly always be relieved with a breeze from the crown of ten or fifteen minutes. When relieved it is liable to return in half an hour or an hour, but a second or perhaps a third application will usually relieve it for that day. Neuralgic pains or what appears to be neuralgic are very common in patients during the withdrawal period, and I have found the static current very efficient in controlling this very unpleasant symptom. No remedy that I have tried have I had so good success with for the purpose of equalizing the circulation as I have with the static current. Many and many a time patients come to me with hands and feet cold and clammy, features pinched and looking sick, when with ten or fifteen minutes of a breeze from the head crown and the other electrode applied to the feet all the symptoms would be changed, the entire skin would be warmed and the patient made comfortable. Sleeplessness can in some cases be overcome by a ten minutes' use of electricity just previous to the patient's retiring for the night.

No remedy with which I am acquainted will so readily and universally correct the heart's action as will static electricity under certain conditions. Should a large part of the patient's ordinary dose be taken away at one time electricity would be entirely inadequate to control the heart.

But we will presume that the heart is being properly supported with strychnine or some other heart tonic and we have made a small reduction in the dose, enough so that the patient is a little weak and nervous. Under these conditions the slightest cause, either mental or physical, is sufficient to increase the circulation 30 to 60 beats to the minute and make the patient very uncomfortable. Under these conditions electricity is a sovereign remedy. Should the heart become slow and weak the same remedy appears to act about as well. In fact, there are but few of the nervous phenomena due to the withdrawing of morphine but may be modified with the static machine.

Valuable as electricity is in relieving the above symptoms, I consider its greatest worth is as a general nerve tonic. There are many cases that would not probably require any electric treatment during the entire withdrawal period, while many others will be in much better condition at the end of their treatment if they take electricity twice a day during the whole period of withdrawal. I make it a rule to give ten to twenty minutes of a general electrization to all patients who come to me as nervous wrecks, such as a majority of morphine patients are, and I feel sure from experience that they recuperate faster and are more comfortable, and I believe that it is of great importance that patients be kept just as comfortable as possible while withdrawing the morphine. Certain it is that one is far from being in a favorable condition for recuperation when he can not sleep or rest at night, nor eat or be at ease during the day. Most patients can be kept comfortable during treatment and made to improve in flesh and general health, a condition much to be desired by the physician and very much appreciated by the patient.

While static electricity can be considered only as one of the remedies to be used in the treatment of this troublesome disease, it has been a valuable one in my hands. I am

thoroughly convinced, after years of experience in the treatment of narcotic drug addictions, that those patients who receive the least shock from withdrawal of the drug, or, in other words, those who are kept the most comfortable during the period of withdrawal, are the ones whom we are able to more nearly restore their nervous systems to a normal condition, and as we come nearer to doing this we increase the probabilities of a permanent cure.

A large per cent. of patients will leave the institution as soon as the drug is withdrawn and they find it possible to get along without the use of it. Unless there has been considerable repair of the nervous system previous to the time of leaving the institution there will be a very large per cent. of relapses. All patients should remain in the institution until they are quite well and strong.

The one unpleasant feature of static electricity is that all the machines that I have any knowledge of are inclined to take a vacation during two or three of the hot months. However, with proper care they can be made to give some current that will be more or less efficient.

To recapitulate. Reduce the morphine so gradually that there is no shock or irritation to the nervous system. Static electricity will be of service in helping to keep the patient in such a condition that the above is possible. The nearer one can keep the patient in a condition of comfort and ease the better and more rapidly will the nervous system recuperate. Static electricity will help us keep the patient in that condition.

Keep the patients in the institution under tonic treatment until they are as near perfect health as possible.

Static electricity is a good nerve tonic.

FOOD AND POISON.*

BY DR. MAX KASSOWITZ,

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Upon the view that food serves as heat material for the bodily processes, and upon the foundation principle of the transformation of energy, the purely theoretical deduction was made some time ago by R. Mayer that alcohol must serve the function of a food since it burns in animal or human bodies. This deduction stands or falls with the assumption that food materials simply burn in the body, proof of which has never been advanced. On the other hand, we know unquestionably that food serves, at least in part, as building material for the body, while not one fact warrants the assumption that any food burns in the body without previously having furthered its construction, that is, without having primarily served as a builder of protoplasm. The question now to be answered is whether beside the metabolic change of matter, which is characterized by food first building up living assimilative protoplasm and by products arising through destruction of this protoplasm, and which, to a certain extent, is undoubtedly the use of food, whether, beside the specified metabolic, the catabolic change of matter also is possible, that is, the immediate destruction, the direct combustion of food materials. The experiments with alcohol prove that such a catabolic change of matter does not take place. That alcohol is a narcotic poison and can destroy all living protoplasm is an acknowledged fact. In the view that

* Before the German Society of Medical Abstainers.

has been accepted, purely dogmatically, that alcohol, which is a poison, is at the same time a nutritive substance, a tonic, we see a paradox, which no one would think of making about any other poison. On the other hand, no substance which is truly nutritive destroys protoplasm. Experiment can decide the question. Chauvean had a dog work upon a specified diet; the animal accomplished every day a certain amount of work, and in so doing gained in weight. The dog's food was then so altered that, while all else remained the same, a certain amount of carbohydrate was placed by a quantity of alcohol, which, upon the assumption of the catabolic change of matter, was equal to the carbohydrate omitted.

If, then, the alcohol acted as food, there would have been no difference noted. However, the animal experimented upon not only did less work every day, which is to be set to the account of the narcotic effect of the alcohol, but it grew thin, while with less work accomplished and the same food, still greater addition of body weight must have taken place. The experiment, therefore, proves that alcohol as poison can not act as food, but only injure protoplasm. Knowing this, we ought surely in the future to desist from attempting to strengthen the weak and sick with alcohol and from expending for alcohol in hospitals large sums of money, which would better be used to really improve the food.

Science can err; an error with heavy consequence has been the proclaiming alcohol to be a food and tonic. But science itself through its progress will correct its errors, including the error in regard to alcohol.

In the discussion (following the reading of the above) Professor Hueppe (Prague) said that no such fundamental contrast exists between food and poison, since the most important aliments, taken in improper form, are stringent poisons; here belong peptone and fatty acids, which, nevertheless, every one absorbs plenty of daily. One ought to take into account the ability of the body to deal with poison,

which is a force against alcohol. Theoretically it is true that the body can take care of certain small quantities of alcohol as it can of peptone; practically, however, the danger lies in not keeping within bounds and hereby seeing the poison action stand preëminent. The speaker himself had found that he himself and others could accomplish more work by abstinence. He spoke, in conclusion, of the importance of physical exercises in the war against alcohol.

Professor Rosemann (Greifswald) emphasized the fact that alcohol, even if theoretically a food function must be given it, is practically not a nutritive substance, since, in the quantities necessary, the poison action gains the foreground.

Dr. Sickinger (Brünn) spoke of the experiences among Austrian wine-growers. Dr. Kumpf (Graz) mentioned the abstinence of most mountain guides in the practice of their calling. Dr. Lenzmann (Duisburg) emphasized the difference between substances like peptone and alcohol, which can not be compared without going farther. The body makes of peptone a substance which serves to build it up, but makes no such of alcohol. Small quantities of alcohol injure undoubtedly, for example, not the coarser liver cells, but in a very marked degree the most finely organized nerve cells of the brain.

Professor Kassowitz came back in his conclusion to the fundamental difference between peptone and alcohol. Peptone is changed during the absorption in the digestive organs; in the blood there is no peptone. Alcohol, however, is absorbed unchanged, and is found as poison in the blood. His views that no substance can be at the same time food and poison could be thrown over by no empirical data. Abstinence, especially of physicians, is now practically the most important factor in the alcohol question.

ALCOHOLISM AND CRIME.*

BY P. M. LIGHTFOOT, M.D., Cross Keys, Ala.

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Medical Association.

Tradition tells us that a prehistoric people — whose intelligence was that of a savage — accidentally discovered that the juices of tropical fruits had undergone fermentation in the cup-shaped palm leaves, into which they had dropped, and when they drank it in this state it produced intoxication, leading these people to believe that this delightful sensation, which seemed harmless to them, was not only a cure for their simple ailments, but made them stronger and more fearless in the terrible wars which they waged in defense of their hunting grounds.

We have evidence to show that through a long line of heredity we have handed down to us from these people the belief, inspired by superstition and ignorance, that alcohol is today a "cure all" for most of our ills, and will serve our purpose in all conditions.

Before mentioning crime in connection with alcohol I wish to review the effects of alcohol upon the nervous system, which will illustrate the law that drugs which affect the functions progressively exhibit their earliest powers upon those functions which are highest in development — being those latest acquired by the individual and last to appear in the species — and influence next the next lower, until finally the lowest, namely, those of respiration and circulation, these being the first to appear in the species.

*Read before the Southeastern Alabama Medical League at Ozark, Jan. 21, 1903.

The primary stimulation and subsequent depression of function proceeds, therefore, in a descending scale from the highest and least firmly fixed, and latest acquired function, to the lowest and most firmly fixed one.

Thus, by alcohol, the intellect is affected very early and the judgment abolished very soon, even though the imagination, the emotions, and the powers of speech remain stimulated.

Soon these follow the same course, imagination is abolished, and the patient loses command over his emotion; next he loses control over his organs of speech, talking incoherently, thickly, and then can only make a noise. At the same time other delicate and lately developed movements, as those required for writing, feeling, etc., are incoördinately performed, and soon paralyzed. General muscular movements, being less highly and earlier developed, are next to become implicated, being first incoördinated, and soon abolished.

The paralysis of reflex action follows, then that of respiration, and finally that of the heart.

Thus, we see that the first effect of alcohol is to abolish the intellect, taking away the higher *man* and leaving the *animal*, which has no idea of right and wrong and is prone to commit crime.

I have often thought what a great thing it would be if the physiological effects of alcoholic drinks could be reversed, leaving the mind in perfect order until the muscular system was paralyzed. It would surely diminish the amount of crime committed while under its influence.

It is said that about seventy per cent. of all perpetrated crimes are directly or indirectly attributable to alcoholism. This large percentage applies principally to such offenses as the disregard of the rights of others, and contempt of law and order, and such crimes as assault, disturbance of domestic peace, and robbery, for to all of these the habitual drunkard seems to be particularly prone. Such misdemeanors are fre-

quently committed in a moment of passion, hence entirely unpremeditated, and so soon as the perpetrator regains his normal senses he is seized with remorse. While the sober man, it is true, is also subject to sudden and violent emotions, he is, nevertheless, by exercise of his will-power, able to control, to some extent, the irrational dictates of his passions. He is aware of the consequences awaiting him upon the perpetration of a crime, and weighing them in his mind, will either abandon his projects, or exercise utmost precaution while executing them.

While the sober man is master of his impulses, the drunkard is a slave to his emotions and passions.

With the slightest cause the inebriate may commit an assault or even manslaughter, and if an opportunity presents itself, he may commit moral delinquencies. But he rarely commits such offenses as are the result of premeditation or design.

Of those convicted of perjury, it is said that only about twenty-six per cent. are addicted to alcohol, for perjury is generally based upon a motive — either the love of money or the endeavor to save another from punishment, motives originating only in the unclouded mind of the sober. Among incendiaries we find but forty-five per cent. are alcoholics, for arson is premeditated, and usually executed with a distinct purpose in view.

As we have seen, alcohol habitually used affects principally the brain and nervous system, which lose their normal degree of resistance, their healthy activity is reduced, and a deterioration of nerve substance results. Other consequences are generally retrogression of intellect, debased standard of morality, and complete or partial loss of will-power.

The habitual alcoholic shows signs of premature deterioration, his general bearing is undignified, his sentiments are more vulgar and his sense of truthfulness is deficient. His

love of family declines, and an indifference as to the future of his offspring becomes apparent.

Of all the effects of alcohol, none is so deplorable as the fact that the offspring must suffer for the cravings of its parents.

This is more apparent when both father and mother have been habitual alcoholics.

The drunkard, like the morphine-eater, and like certain types of the insane, lives in a world of his own. He has his delusions and hallucinations and while subject to them he is unable to distinguish between right and wrong.

He is also without ambition or energy. He cannot resist temptation, and in the association of criminals he soon becomes a criminal himself. His will-power and judgment being destroyed, he is often a tool for their culpable enterprises. Hence, association with low characters seems another cause of the downfall of drunkards.

According to our present laws, the habitual or periodic drunkard who has committed a slight offense is imprisoned in a penitentiary or workhouse, where he is in contact with criminals. This must be detrimental to him who is so little capable of exerting self-determination. He, who was perhaps but an accidental offender, may thus become a hardened criminal, and it is said that the more frequently an alcoholic is imprisoned the more incapable of reformation he becomes.

If the purpose of punishment is the prevention of crime, reformation of criminals, and the protection of society, it seems that the prison is the wrong place for the inebriate offender, for there he is rarely cured of his disease, and from there, in many instances, he graduates a full-fledged criminal.

As the main object of sanitary science is the prevention of disease, so prevention of crime should be the endeavor of legislation.

A reformatory or industrial institution where moral, dietetic, and medicinal treatment go hand in hand would produce

results superior to those obtained in general penitentiaries or behind prison-bars.

During the last three years over forty boys have been sent from the inferior criminal court of Birmingham to the industrial school at East Lake, and I see that Judge Feagin of that court favors a similar institution for young negro criminals. And it seems that such an institution for the inebriate offender — who in intellect is nothing more than a mere boy — would be equally beneficial.

SANATORIUM TREATMENT FOR INEBRIETY.

A bill has been introduced into the Pennsylvania Legislature which provides for the commitment of persons addicted to the use of alcoholic or other intoxicating drinks to a hospital or asylum for restriction, care, and treatment. According to its provisions any two relatives of the alleged drunkard may apply by petition to the Quarter Sessions Court or magistrate, setting forth the facts upon oath, with an affidavit of at least two physicians, based upon examination, accompanying the petition, stating that in their opinion treatment in a hospital will be of benefit to him. If after a hearing the court is satisfied that the petition should be granted the person shall be committed to a hospital for treatment until the judge or magistrate shall be satisfied that further restriction is of no longer benefit, with the further provision that no commitment shall be for a longer period than one year and all commitments shall be reviewable under a writ of habeas corpus.

Soldiers thrice found guilty of drunkenness in one year will be summarily discharged from the British army, under the new rules to be promulgated shortly.

TOBACCO POISONING.*

BY A. C. H. FREIDMANN, M.D., of Colorado Springs,
Colorado.

While the dangerous effects of tobacco poisoning are known to affect almost every part of the human organism, it is a fact that the result which brings the patient quickest to the physician is the injury which it causes in the eye, and yet in very many cases the patients come very late, often too late, under the observation of the specialist. This is caused by the circumstance that the disease starts very rarely with the central impairment of the vision, and mostly with the peripheral.

I do not desire before this society, devoted to general medicine, to dwell exclusively upon the ocular manifestations of tobacco intoxication, but will also shortly enumerate the injurious effects upon other parts of the organism. Before doing so, let me briefly report the results of the most recent studies of the chemism of tobacco.

Tobacco, when smoked, according to the analysis of H. Thoms, produces nicotine, pyridine, and some homologues of the latter; also an ethereal oil, prussic acid, and small quantities of carbon monoxid gas. Seventy-five per cent. of the nicotine which goes into the smoke remains unchanged; 25 per cent. decomposes. It is wrong to believe that all of the nicotine is contained in the smoke. A great part of it is deposited in the stump of the cigar, so that this contains finally from three to four times more nicotine than it did before the cigar was smoked.

* Read before the El Paso County Medical Society.

Some cigarmakers claim to have invented health cigars, where they make the nicotine nonsoluble by treating it with an extract of *origanum vulgare*. In examining these cigars it has been found that $22\frac{1}{2}$ per cent. of the nicotine is decomposed and absorbed — that means just about the same percentage as in ordinary cigars. Figure from this and you can appreciate the alleged value of the health cigar.

In order to determine the effects of the presence of CO gas in the smoke, experiments were made by F. Wahl. He found in tobacco smoke from 0.6 per cent. to 2.7 per cent., and in cigar smoke from 1 per cent. to 7.6 per cent. CO gas. Experiments in which from twelve to fifteen cigars were smoked in a small room — a certain number by the author and the remainder artificially — showed that in spite of the very irritating effect of this atmosphere (especially upon the conjunctiva), no symptoms of CO gas intoxication were noticeable. The air of the room contained 0.02 per cent. CO gas. On testing some rabbits which were confined in the room during the experiment, it was found that their blood had absorbed some of the CO gas. Therefore it may be conceded that, under ordinary circumstances, the CO gas generated by the tobacco does not injure the smoker. It remains to determine the cumulative effects of the poison in chronic smoking.

M. Breitung gives us a very good description of the dangers threatening the habitual smoker as soon as he quits. He proves that the strength of the tobacco depends less on its percentage of nicotine than of ammonia. The nicotine being present in the form of salt would burn completely if it were not set free by the ammonia, and so go into the smoke as nicotine.

Statistics prove that the organs mostly injured by excessive smoking of tobacco are those of the auditory and genital systems. No organ of the body, however, is absolutely immune against the poison, though one cannot deny that some

of the ailments attributed to the use of tobacco are really caused by the often accompanying use of alcohol.

There exists a vast difference of effects between the different forms of using tobacco. The regular smoking of from twenty to thirty cigarettes always results in more or less injury to the health of the smoker; and while moderate cigarette smoking is without danger, yet the temptation to excess is so great that, almost without any exception, every cigarette smoker succumbs to it. We are, therefore, compelled to call the cigarette a menace to the health of the people, and the national welfare requires the passing of a law against the sale of cigarettes, at least to minors.

The taking of snuff — which, however, is very rare — does not affect the general health. It only attacks the middle ear by way of the Eustachian tube, and can lead to obstinate forms of chronic otitis media.

Tobacco chewing causes very dangerous intoxication, and tobacco psychosis may arise from it. Therefore the serious effects of tobacco chewing should be insisted upon in all lectures and writings on hygiene.

The injuriousness of excessive tobacco smoking is usually shown upon the heart; weakness of action, slowness of pulse (tobacco heart), and chronic irritation of the trachea, are very frequent symptoms of cigarette smokers who inhale the smoke, and nearly all indulge in that. Tobakosis is a disease whose existence is known only among the laborers in large cigarette factories. It affects the lungs and often leads to tuberculosis.

The absorption of tobacco is rapid, and has been compared to that of hydrocyanic acid. Small birds, near whose beaks nicotine was placed, are stated to have fallen dead without more direct contact. Applications of wet tobacco leaves to the skin of man have caused rapid poisoning, as in the case of smugglers who wrapped their bodies in dry leaves, and when perspiration ensued, were soon overcome by ab-

sorption of the nicotine. (Hildebrand, Namias.) The same result has followed the local use of tobacco infusions for therapeutical purposes. Three minutes sufficed for a large amount of nicotine taken into the stomach to kill a man. (Taylor.) The alkaloid is said to act as quickly and powerfully by the mouth as when given hypodermically. (Janesen.) And prompt absorption by the large intestine, as evinced by poisoning after enemata, supports Saboy's contention that this method is peculiarly dangerous. After absorption, nicotine is recognizable in the blood and internal organs, especially in the liver. It is eliminated by the lungs as well as the kidneys.

The chronic tobacco poisoning causes congestion of the air passages, with an unclear and raucous voice; the smoker to excess experiences gastric disorders, and feeble and intermittent action of the heart, which is termed "narcotism of the heart," while the breathing, which sometimes has a sighing character, may show a peculiar rhythmical fluctuation. Memory is often impaired; muscular movements may become tremulous and uncertain.

The most characteristic symptoms of chronic tobacco poisoning are evidenced in the eye, and the whole complex of them is known under the name of tobacco amblyopia. The time necessary for the development of this disease is individually different and ranges from six months to many years. It seems to me mostly dependent on the resistance of the individual to the absorption of the poison. The most noticeable features of it are the impairment of the vision and the change in color perception. Some of the less constant symptoms are pallor of the temporal side of the optic disc and indistinctness of its outlines. Highly characteristic of tobacco amblyopia is the presence of a central scotoma. This scotoma progresses in most cases from the blind spot to the point of fixation, which, in advanced cases, it always reaches. The clear perception for red is primarily interfered with, while

white remains fairly appreciable. The eye affection is often accompanied by gradual failing of the hearing. A mist or a cloud always before both eyes, especially in daytime, the trouble in reading fine print, eccentric fixation caused by central scotoma, the defective field of vision for red and green in the beginning, and for white in advanced cases, are the most characteristic symptoms of tobacco amblyopia. The disease in its first stages is mostly a curable one, as far as checking its progress is concerned, but one very seldom sees cases in which after a substantial loss full eyesight is regained. Advanced stages almost invariably lead to optic atrophy, the field of vision becomes narrower and narrower, the scotoma gets larger and larger, and ends in extreme cases in absolute blindness. Active therapy is of little avail; the use of tobacco and liquor must be absolutely interdicted, whereby the patient has to be instructed about the sometimes very threatening symptoms of abstinence, which might otherwise drive him again to indulge in the habit. Strychnia injections are sometimes of service; regulation of the diet and avoidance of excitement and dissipation should also be enforced.

The relation of alcohol to tobacco as a cause of amblyopia is disputed. Many German authors (Uthoff) maintain that alcohol is the more powerful of the two, while British authors believe the opposite; Hutchinson even suggests that alcohol may have some counteractive effect when excessive smoking is practiced. However, I believe that the effects of alcohol on the eyes are decidedly different from the effects of tobacco, and as a rule not half as serious. I do not believe that tobacco can destroy the entire nervous system as alcohol does, while the demoralizing effect that often follows alcoholism is never produced by the excessive use of tobacco. The greatest danger lies, of course, in the generally known fact that most drinkers indulge also in the tobacco, and *vice versa*, and it is very difficult for physician and patient to fight both enemies at the same time.

Abstracts and Reviews.

RESULTS OF TREATMENT.

Dr. Branthwaite, the Government Inspector of Inebriate Asylums of England, remarks as follows in his last report:

"The word 'cure' in relation to inebriety is not one which can safely be used; it conveys an impression of security which, unfortunately, is unwarranted. An inebriate may be 'broken off' his habit, he may be kept for months from all taste of liquor, and he may, during that time, acquire sufficient self-control to continue to abstain, even in the face of that temptation which must subsequently accompany the full liberty of ordinary life. I have known many instances of recovery to this extent; such a one cannot, however, be justly designated as 'cured,' for he still retains a condition which differs from that of an ordinary individual. The latter is able to take a glass of wine at dinner without the production thereby of an uncontrollable desire for excess; whereas such an indulgence in the case of the 'cured' inebriate would, almost certainly, undo the advantage gained from years of abstinence, and cause a complete reversion, in a few hours, to his original state. After many years this tendency may die out absolutely, or at any rate become less, but I have never met with an authenticated instance of an ex-inebriate who, in later years, returned to the use of alcohol in any form whatever, at least occasionally, lapsing into a condition of insobriety. Let us, therefore, continue to eliminate the word 'cure.' 'Doing well' for good results, those who remain abstainers; and no word other than failure to embrace all who do not attain their standard.

“These remarks may almost be said to dispose of the oft-repeated question ‘are inebriates curable?’ I believe that inebriates are very rarely cured in the sense that they acquire a state enabling them to take liquor in strict moderation. An inebriate, when he has become so, remains so for the rest of his life, so long as he touches alcohol in any shape or form. But if the question is differently worded, and I am asked whether an inebriate can be weaned from his habit, taught to live without liquor and remain without it, I answer, unhesitatingly, yes; because I know many who have done it — male and female.

“Another question, constantly put, has reference to the ‘percentage’ of good results which accrues from control and treatment in special institutions. It is a natural question, easily asked, but nevertheless most difficult to answer. A studious avoidance, however, of any reference to percentages in past reports has been so misinterpreted that I feel it necessary to allude to the matter here, if only to show how impossible it is to produce any figure upon which absolute reliance can be placed. In the first place any statistics are useless which only show the condition of patients immediately after release from detention, or barely a week or two after leaving a retreat. To be of real value any figure as to results should be compiled from returns obtained, in each case, when at least a year has elapsed after return to full liberty; even that period may justly be considered too brief for certainty. Practical experience proves it to be impossible to obtain such returns. It may safely be assumed that at least a third of all patients leaving retreats shake hands with the licensee, thank him ‘for all his kindness,’ and then cut themselves clear from an incident in their lives which is considered discreditable or unworthy of recollection. In compiling statistics, where should these cases be placed? Early in my practical association with the work I invariably classed them (mentally) with the failures; but later experience proved

this to be somewhat unfair. In an appreciable number of instances a subsequent accidental meeting has shown, that, although lost to sight, some have remained creditable results even for periods covering 10 or 12 years. I think an inference that the majority of such cases are failures may safely be drawn; but inferences, based upon such poor information, are obviously too untrustworthy for statistical purposes.

"A smaller section of discharged patients report in an irregular manner for perhaps one, two, or three months after leaving, and then cease. It must be remembered that retreat cases are all 'voluntary,' there is no obligation to report, and the average individual cares nothing for the compilation of statistics. Gratitude, at first strong, is modified by other interests, the pressure of life, and the remembrance that after all the licensee of the retreat was paid for what he did. Obviously again this class further adds to statistical difficulty. Such cases were probably all right for three months, undoubtedly so when corroborative evidence has been forthcoming, but what afterwards? Doubt and uncertainty, too much doubt to be able to clearly define the good from the bad results.

"It may safely be said that most of the bad results are known. Some friend (of a patient who is not improved) generally takes the opportunity of informing the licensee, either to blame him for the future, or with a view to obtain advice as to what further can be done. If we could obtain knowledge of all bad results we might gain the others by exclusion; but this, again, is hardly possible. At present, the figures before me so deduced would show a percentage of cases 'doing well' which I am not prepared to maintain.

"Many other influences contribute to the difficulty, but one more detail must suffice. In the books of some retreats I find a name recurring three, four, or even more times. It is, perhaps, one of many hopeless cases which are induced

to enter retreats, more with a view to giving friends a rest, and to prevent ruinous expenditure, than with any hope of reformation. A year or two of interval may elapse between each admission, and each subsequent entry is proof that the previous period of treatment was a failure. Each separate admission had been treated as a fresh case; consequently one man may, and often does, appear amongst discharges as three or four separate cases, all failed. For a similar reason, any attempt to mass the returns from several retreats simply results in multiplication of error. For example, a man died during the current year who had been admitted, at some time or other, into every licensed retreat, and, in at least two instances, twice or more to the same institution. In each retreat failure had been written against his name.

"Any massed figures would thus show at least ten failures due to one man. The instance cited here is not by any means unique.

"I simply state these circumstances to show why the production of trustworthy statistics is practically impossible under existing conditions. I am not prepared to assert that their ultimate production is impossible, because I think much more might be done in that direction by an improved system of record, and by the joint action of licensees.

"Whilst, however, I am compelled to acknowledge the impossibility of actually proving the case by figures, I must confess to feeling that such an intimate association as I have had with retreat cases gives me fair justification for an expression of opinion. That opinion must necessarily be based upon figures, but reliance is mainly placed upon individual knowledge of the persons to whom these figures refer, and upon private information supplied to me concerning cases in which I have been closely interested. Taking all cases together, unselected, as they apply for admission to retreats, I am of opinion that from 25 to 30 per cent. of good results may be considered as approximately correct. Personally, I

incline to the former, but in this I differ from some others of long experience. I am of opinion that if a retreat can show 25 per cent. it is doing a good work, and one which, if other methods were properly investigated, would prove to be incomparably superior to any other system of dealing with inebriates. If cases could be selected, or treated at an earlier stage, this figure should be capable of considerable amplification. It is interesting, incidentally, to note how closely this figure approximates to the average number of cases discharged cured from insane asylums."

THE COMPOSITION AND ALCOHOLIC CONTENT
OF CERTAIN PROPRIETARY FOODS FOR THE
SICK.

BY CHARLES HARRINGTON, M.D., Boston,
Asst. Professor of Hygiene in the Harvard Medical School.

In presenting this brief communication I propose to discuss neither the question of the food value of alcohol nor the advisability of the use of that agent as a remedy in the treatment of disease. It is my intention merely to offer the results of my examination of a number of preparations which are extensively advertised, and, inferentially, widely used, as foods for the sick and for convalescents, and to leave the question of their true nutritive and therapeutic value a matter for independent judgment.

My attention was drawn to this class of preparations by the fact that an invalid who was faithfully following the directions accompanying one of them was observed to be more or less constantly in a state of marked intoxication, for which condition no cause could be assigned, until the suspicion was directed to the food, which proved, on analysis, to

contain a fairly large percentage of alcohol; and this suggested the advisability of obtaining specimens of other preparations for investigation.

Among those examined were a number which proved to be almost or wholly nonalcoholic, and, although their food value was shown to be very slight when their cost was taken into account, they will be passed by without mention.

Of those which I report, it will be noted that the analyses made were not exhaustive, the determination having been restricted to the percentage of alcohol, total solids, and mineral matter. The yield of total solids was such in each case as not to warrant the expenditure of the time necessary for an investigation of the nature of the several constituents, and for our present purpose we may concede that the total residue of each preparation is wholly absorbable.

Following are those which were found to contain appreciable amounts of alcohol:

“Liquid Peptonoids. — Beef, milk, and gluten, perfectly digested” is said to contain the albuminoid principles of beef, milk, and wheat. “In cases of feeble digestion and wasting diseases,” its effects are said to be “immediate and pronounced.”

Dose: For an adult, one to two tablespoonfuls, three to six times daily; children in proportion.

The maximum amount recommended for an adult will yield less than an ounce of nutriment and the alcoholic equivalent of 3.50 oz. of whiskey per day.

Analysis shows 23.03 per cent. by volume of alcohol, 14.91 per cent. of total solids, and 0.17 per cent. of mineral matter.

Panopepton. — This is said to contain “the nutritive constituents of beef and wheat in a soluble and freely absorbable form.” “A nourishing, restorative, stimulant, liquid food of incomparable value for the nutrition of the sick”; “the best food in acute diseases, fevers, etc., in convalescence”; “a re-

storative from fatigue"; "a special resource against insomnia."

Directions: "For adults, a dessertspoonful to a teaspoonful several times a day and at bedtime; for infants, a few drops to a half teaspoonful according to circumstances, as directed by the physician."

It yields 17.99 per cent. of solid matter (including 0.97 per cent. of mineral matter) and 18.95 per cent. by volume of alcohol.

Hemapeptone.— This is said to be a preparation of "albumose-peptone," "the end product of digestion of albumin and hematin, a true organic iron."

One is advised to take a teaspoonful, increasing to a tablespoonful as needed, after each meal.

Analysis: Alcohol by volume, 10.60 per cent.; total solids, 19.54 per cent.; mineral matter, 0.37 per cent.

Nutritive Liquid Peptone. — This is said to be "a valuable combination containing the nutritive constituents of beef and malt, predigested and ready for assimilation," and to possess "the properties of a gentle and refreshing stimulant."

No dose is given. The analysis shows: Alcohol by volume, 14.81 per cent.; total solid nutriment, 15.20 per cent.; mineral matter, 0.69 per cent.

Hemaboloids. — The nutriment in hemaboloids is said to be "partially digested and vitalized by treatment with nuclein, rich in iron and phosphorus-producing elements." It is said to enrich the blood, to increase the weight and the number of red blood cells, and to enhance nerve action. The preparation is said to consist of vegetable nucleo-albumin, reinforced by beef marrow extract and beef peptones, and is to be used in all impoverished conditions of the blood, such as anemia, general debility, and in convalescence from all diseases.

The dose recommended is one-half to one teaspoonful three to four times daily in a little water, plain or aerated, or

with cracked ice. "If necessary, increase to two tablespoonfuls."

The maximum recommended yields about a quarter of an ounce of nutriment, and the alcohol equivalent of about an ounce and a half of whisky daily.

Analysis shows 6.36 per cent. of total solids (about half as much as is contained in milk of fair quality) and 15.81 per cent. by volume of alcohol. The mineral matter, which is largely iron, amounts to 0.62 per cent.

Tonic Beef. — Tonic Beef is said to contain "the nutritive constituents of beef, wheat, and fresh eggs in a soluble, predigested, and hence readily absorbable form." One is led to believe that the beef is carefully selected, and that the blending of the constituents of these three very important foods, and their flavoring and aging (whatever that may mean in connection with eggs) have been conducted on most scientific principles. After being treated to an imposing array of facts concerning the value of the preparation, we are informed that "besides being a nutritive, Tonic Beef is a delightful stimulant." Adults are advised to take from half to one tablespoonful every four hours and at bedtime; infants and children should be given from ten drops to a teaspoonful, according to age.

A tablespoonful every four hours will yield to the consumer in the course of a day about a half ounce of nutriment and the alcoholic equivalent of an ounce of whisky, for analysis shows 15.58 per cent. by volume of alcohol and 18.16 per cent. by weight of residue, including 1.04 per cent. of mineral matter.

Mulford's Predigested Beef. — "A concentrated predigested food containing the entire nutritive value of beef in a completely digested form, ready for immediate absorption into the system."

It is claimed for it that "it is a complete natural food product, containing sufficient nutritive materials to maintain

normal nutrition of the body," and that it is "indicated as an exclusive diet in typhoid fever, la grippe, tuberculosis, nervous exhaustion, and all conditions of the system associated with enfeebled digestion and malnutrition."

Dose: One to two tablespoonfuls in water every two or three hours, or as needed; children in proportion to age.

Analysis shows 19.72 per cent. by volume of alcohol, 10.39 per cent. by weight of total solids, which yields 0.20 per cent. of mineral matter.

The maximum administration recommended, that is, two tablespoonfuls every two hours, disregarding the proviso "or as needed," would yield daily about 1.25 oz. of nutriment and the alcoholic equivalent of about 6 oz. of whisky, which might well be regarded as hardly adequate as an exclusive diet in the diseases above mentioned or in any other condition of the system. — *Boston Medical and Surgical Journal*.

ALCOHOLIC PARANOIA.

A few cases of chronic alcoholism gradually develop delusions of jealousy independently of ideas of persecution, which are persistently adhered to and expanded with poor attempts at systematization.

The estrangement naturally arising between man and wife as the result of chronic indulgence in alcohol and its necessary consequences is the nucleus about which delusions of jealousy form. The patients believe that the reason for this change of affection lies in the fondness of the wife for other men, or of the husband for other women. Added to this, Krafft-Ebing lays considerable stress upon the failing sexual powers of the alcoholic. Iscovescu found the delusions of jealousy three times more prevalent in females than in males, which he explains by the fact that women are more emotional. Insignificant occurrences are regarded as im-

portant evidence of this infidelity: the assistance of some one in carrying a bundle, the fondness of a friend for their children, the voluntary implication of a neighbor in a family strife. The frequent clanging of a car bell means that the motorman is a correspondent. A side glance from a passer on the street, the arrival of an unusual letter, and even association with another man's wife, are held as sufficient proof of the suspected misbehavior. Furthermore, the home and children are neglected. They have seen the wife enter the apartments of a neighbor, and from noises which they have heard are sure that she was guilty of infidelity.

Occasionally, peculiar noises are heard about the house, a creak of the door or low talking, which are supposed to be made by the lover. There may be a peculiar odor in the house, or an odd taste in the food, which leads them to believe that an effort is being made by the wife to poison them. This incites them to nail down the windows and to fasten the door in order to keep out intruders. The saloon keeper is implicated, if he refuses to give them credit for liquor, or the coachman if he happens to be amiss in any of his duties. The reasoning in these delusions is very weak, illogical, and full of absurdities.

Their delusions are not built out, but remain confined within narrow limits. The patients, however, state them coherently, and oftentimes display considerable emotion, and indeed, in this way they frequently convince chance acquaintances of the great injustice done. Associated with these delusions of infidelity there may be delusions of poisoning.

There is no clouding of consciousness. In actions the patients usually exhibit marked weakness; they bemoan their misfortunes while submitting to the injustice. At times the actions are entirely out of accord with their delusions, and this is especially true in cases of long duration. A man may live peaceably with his wife whom he accuses of committing adultery night after night in his presence. Only rarely do

they take means to chastise the wife or assault the supposed lover. One patient in despair drowned himself. Sometimes they are very irritable, and in fits of anger may be both aggressive and destructive.

The course of the disease is usually progressive. The delusions seldom disappear permanently, though abstinence from alcohol often produces improvement, especially in conjunction with confinement in an institution. When removed from home they are not annoyed as much by their delusions, and are able to live very comfortably. The apparent improvement leads to the belief that they are suitable for release, but the return to home surroundings, with the opportunity to secure alcohol, soon leads to recurrence of delusions. This psychosis is differentiated from paranoia by the lack of system in the delusions and by the symptoms of chronic alcoholism.

The treatment of these cases is limited to abstinence from alcohol, and confinement in an institution to prevent aggressive attacks and suicide.

Alcoholic Pseudoparesis. — There may develop in chronic alcoholism a condition very similar to dementia paralytica; indeed, the similarity is so pronounced that the diagnosis may remain in doubt for a long time. It is of gradual onset, with the characteristic alcoholic hallucinations and delusions of persecution and infidelity, together with the characteristic failure of memory and judgment, expansive delusions, and mental stupidity of the paretic. Physically, there are the disturbances of speech, muscular tremor, ataxia, occasional epileptiform attacks, sensory disturbances, and exaggeration or loss of tendon reflexes.

The course of the disease is protracted, but not progressive. The more marked symptoms disappear in the course of a few months, or even years, leaving the patient in a condition of mild dementia, with perhaps a few expansive or depressive delusions of a paranoid type. A few patients recover so as to return to their homes and business.

The diagnosis depends in great part upon the course, which in dementia paralytica is progressive, while in alcoholic paresis the symptoms remain at a standstill. Furthermore, real muscular weakness is more marked than in paresis, and the tremor more general. The difficulty of speech in the alcoholic is due to tremor, and does not include elision and omission of syllables. Also headache, hallucinations, and anæsthesia are more marked in alcoholism. In alcoholics the delusions are of fear, persecution, and infidelity, with more or less marked emotional display, while in paresis, if similar delusions exist they are less sustained, coherent, logical, and more easily diverted. The paretic regards his woes more philosophically, showing contentment and indifference. It must be borne in mind that typical dementia paralytica sometimes develops in the course of chronic alcoholism.

The pathological findings in alcoholic paresis are, according to Krafft-Ebing, based upon one of his own cases, similar to those of dementia paralytica, except for the absence of the granulations of the ventricles. — *Kraepelin's Psychiatry, by Defendorf.*

ALCOHOL AS A MEDICINE.

However desirous medical men may be to stand aloof from the clamor of the wordy contest which rages perennially around the question of the use of alcohol as a beverage, all who use alcohol as a medicine are bound to arrive to its action when so given. Sir William Broadbent has lately pointed out that whenever alcoholic stimulants are employed in the treatment of disease they ought to be regarded as medicines and prescribed with the same care and in the same definite way as the most powerful remedies. Before prescribing alcohol, whether in chronic or acute disease, we ought to ask ourselves the question, what we expect of them,

and in what way the good effects we look for are to be produced. Moreover, we must bear in mind in regard to alcohol, as with other remedies, not only the direct and immediate advantage we are aiming at, but the collateral and remote effects which may be produced by it, especially if its use should be long continued.

As to the good we expect from the administration of alcohol, the idea so firmly fixed in the mind of the public that stimulants give strength must no longer be entertained for a moment. Such energy as is liberated by its oxidation can only be in the form of heat, which is unimportant; it certainly does not give muscular force or nervous energy. The action of alcohol which we call stimulant is indirect. Its most conspicuous evidence is dilatation of the arterioles and capillaries which allows a freer supply of blood to all the organs. Thus the temporary general acceleration of the circulation and the increased afflux of blood to the brain and viscera generally constitute the action of alcohol of which we take advantage clinically. Such afflux may permit the evolution of functional energy, but this is provided at the expense of the blood and tissue, and is not supplied by the alcohol.

In prescribing alcohol in chronic disease the first thing is to take care not to do harm. Alcohol has no place in the treatment of weakness in childhood. In the anæmia and chlorosis of adolescence stimulants are of very doubtful advantage. But the most treacherous employment of stimulants at any period of life is their administration for the relief of depression, or of sensations described as "sinking," or of subjective feelings of weakness, even though such subjective sensations be accompanied by weakness of the pulse. Doubtless the immediate effect of the administration of alcohol under such circumstances is distinct and agreeable, but reaction is inevitable, and "if stimulants taken on medical advice are ever responsible for the establishment of the alcoholic habit, it is under these circumstances." Disease of

either kidney or liver may almost be regarded as a bar to stimulants. — *London Hospital.*

CURABILITY OF WOMEN INEBRIATES.

In the English report of inebriate asylums by the inspector, Dr. Branthwaite, occurs the following:

“There is just one more matter of importance which calls for special reference before leaving the realm of ‘general remarks.’ It has been freely stated of late that when a woman becomes an inebriate she may be regarded as hopeless; in fact, that her reformation is practically impossible. Although these expressions of opinion have emanated from persons who are not in intimate touch with the work, they nevertheless create, or add strength to, an impression which is not only unjust and cruel, but entirely erroneous. Such expressions cause infinite annoyance to those licensees of retreats and managers of reformatories who are devoting their lives to the reformation of women; they make their work harder, and do incalculable harm, by instilling into the minds of inebriate women the hopelessness of struggling against their failing. It is this impression, firmly rooted and fostered by constant reference, which is largely to blame for many failures in the reformation of women. When they are apparently reformed nobody believes them, they are received back to their homes on sufferance, and treated generally as if they were bound to break down again — because ‘the reformation of women is impossible.’ I cannot produce figures, because no doubt has ever existed in my mind as to the reformability of women, and I have collected none; and also for other good reasons which will be referred to later when speaking of the results of treatment. But, apart from figures, I am quite content to rely upon personal impressions resulting from close association with inebriates during something like twenty years, and from knowledge of between two

and three thousand cases of both sexes. Such experience gives me a position few others have, and leaves me with a firm conviction that women who give themselves fair chance have at least an equal chance with men of good result. I know of some women now, teetotallers after ten years and more, who have never broken down, and who were inebriates in every sense of the word, despite the illusory classification which has been attempted between inebriates and habitual drunkards, a purely academic distinction which is essentially unpractical. At any rate they got liquor whenever they could, by fair means or foul, they pawned household goods, they bribed servants and strangers, they stole, and they passed through the stages of secret cures, companions and attendants, unimproved. If these are not inebriates, I am unable to define them in any other way. As some consolation to women inebriates, I should like to close this subject with the reiterated statement, that in my opinion, with equal consideration and treatment, women are every whit as reformable as men and possibly even more so."

SELF-ACCUSATION IN TOXIC PSYCHOSES.

Dr. Dupree of Paris in a recent lecture said:

"All toxic and infectious states create psychical disorders, such as hallucinatory delirium, oneirodynia, mental confusion, etc. Most generally, the type of hallucination and of all secondary disorder is painful, sad, or terrifying. Toxic psychoses bring together all the pathogenic elements capable of creating and increasing ideas of self-accusation. Lasegue used to say that when a man pretends to be a murderer, one might assert, ninety-nine times in a hundred, that he is alcoholic. So, in these cases, alcoholism must always be looked for. Strong and healthy people survive long poisoning, but acting on a degenerated soil the least intoxication might awake an idea of self-accusation. As a rule there are alterna-

tions of half-conscious lucidity; then the phases of delirium lessen, and at length disappear.

“Self-accusation of alcoholic origin is principally noticed in psychic or delirious inebriation, and in subacute alcoholic delirium. But it may also be observed in the various combinations of alcoholism and mental degeneracy; there is a kind of pathological mixture.

“Next to alcoholic psychoses the acute infectious psychoses cause the most numerous cases of self-accusation from a toxic origin. Dr. Dupree reports five observations of self-accusation in typhoid fever.”

PSYCHOPATHOLOGICAL RESEARCHES. Studies in Mental Dissociation by Boris Sidis, M.A., Ph.D., Director of the Psychopathological Laboratory, New York. G. E. Stechert, publisher.

This very suggestive volume published under the auspices of the trustees of the Psychopathic Hospital, a department of the New York Infirmary for Women and Children, is a new study of the beginning of mental diseases. It will be found very helpful in tracing the complex phenomena of inebriety and clear up many very obscure phases of the subject. The following extract from the first chapter will show its great value:

“The entrance to the province of psychopathology lies through the domain of so-called functional psychosis. It is in functional psychosis that we find the initial stages of the more advanced states of mental degeneration. This necessity of investigating first the initial stages holds true in the experimental scientific investigation of all natural phenomena. Whenever we want to determine the relations and laws of certain types of facts we do not study them in their manifestations on a grand scale. To grasp the laws of phenomena the latter must be entirely under our control, but such control is impossible when the phenomena under

investigation are displayed in their full force and grandeur. We do not study electrical phenomena in the lightnings of the storm, nor do we study the laws regulating the tides in the grand sweeping waves of the ocean. The laws of electricity would never have been discovered had we been confined to the direct observation of electrical storms, nor would the laws of tides ever have been revealed in the observations of floods. It is by getting hold of similar phenomena reduced to a more insignificant state, and having them isolated, getting them thus under efficient control, ascertaining the conditions, and having them manipulated, changed, modified, and observing the effects—it is only under such circumstances that the nature of the phenomena can be clearly comprehended. The nature and laws of galvanism and magnetism become revealed in the feeble current of a small battery, and it is from this that we gain an insight into the nature of electrical storms. The electrical spark explains the lightning. The majestic sweep of the awe-inspiring billows of the ocean is replaced in the laboratory by waves produced in a bowl of water. The aurora borealis is explained by the glowing of the cathode ray in a small glass tube. The chemist does not require an ocean to find out the constitution of water, a drop of water in a test tube is all that is requisite. Combustion is not explained in the great fires sweeping over a prairie, a candle suffices. Composition of light was not learned from the observation of the rainbow, but on the contrary the rainbow found its explanation in the refraction phenomena of the prism by which a ray of white light is decomposed. An insight into the nature of phenomena is given by a study of the processes on a reduced scale in their feeble initiatory stages. Universal gravitation and the movements of solar systems are, as the story runs, learned from the fall of an apple. The scientist can study his phenomena only when they are on a reduced scale, and only under such conditions can he handle his material efficiently.

“In the study of the nervous system we do not put a whole brain under a microscope—a single section, often limited to but a few isolated neurons, suffices. In the investigation of the causes and laws of biology we do not carry on researches on elephants or hippopotami—amœbæ cells give

us a far better insight. In geology the formation of strata, of islands, of mountains and continents, is learned from the actions of rills, brooks, and from the sediment slowly formed in glasses and jars. Great effects are often wrought by the persistent action of small, insignificant causes. The theories of grand catastrophes had to be abandoned, and the slow and gradual action of infinitely small forces recognized; these alone were sufficient to reveal the mechanism of grand and complex manifestations.

“In this respect the very theory of evolution may serve as an excellent illustration. The pre-Darwinian biologist worked with whole species and genera, and as such his work was a failure. Darwin started with observations and experimentations of initial stages of insignificant variations produced in domestic animals, especially in pigeons. The study of insignificantly small differences known as individual variations and divergencies gave him a deep insight into the origin of species. Modern biology goes even farther into the minutiae of cell structure, and the slightest differentiae in the stages of cell development are followed up and experimented upon with the result that the insight into the relations, laws, and conditions of biological phenomena becomes wider and deeper. The study of the initial stages of cell life permits the biologist to get, for the first time, a glimpse into the great problems of biological science, those of heredity and variation. It is in the seemingly insignificant that science discovers the secrets of the most potent natural forces; it is in the apparently trivial that the scientist finds the key to the deepest mysteries of nature.”

This principle of reduction is all the more important in the domain of abnormal mental life, because the phenomena presented to the investigator are of extreme complexity. Great scientific caution must therefore be exercised in the study of psychosis, and only the strictest application of the principle of reduction can help us to gain an insight into the nature and laws of abnormal mental life. Moreover, he who deals with the investigation of mental phenomena, whether normal or abnormal, has the disadvantage that his material cannot be directly modified at will without extreme caution,

since the factors entering into the problem are complex and form an organic whole, the least disturbance of which may produce permanent injury to the mental or physical constitution of the organism.

CLINICAL PSYCHIATRY. A Text-book for Students and Physicians. Abstracted and adapted from Sixth German Edition of Kraepelin's *Lehrbuch der Psychiatrie*. By A. Ross Defendorf, M.D., Lecturer in Psychiatry in Yale University, etc. Cloth 8vo, illustrated; pp. 450. New York: published by Macmillan Co. 1902.

Our readers will welcome this excellent translation of Kraepelin's work. It gives in a condensed form a very clear picture of Kraepelin's graphic discussions of mental diseases. The book has a particular interest to all students of inebriety because of the prominence given to what is called intoxication psychoses, and the neuroses which follow from spirit and drug taking. No doubt this volume is the most advanced study of psychiatry which has appeared. Kraepelin has done a great deal of original work in the measurements of sense and functional activities before and after the use of alcohol, which has made him famous as a student and teacher. We hope to be able to present some of these new studies, which are being repeated in this country in several laboratories. In the meantime this book is an almost indispensable introduction to the larger studies which will appear in the near future. We urge our readers to possess themselves with a copy of this work and become familiar with one of the great teachers of mental disease.

THE INTERNAL SECRETIONS AND THE PRINCIPLES OF MEDICINE. By C. E. DeM. Sajous, M.D., Fellow of the College of Physicians, Philadelphia, etc. Volume First. F. A. Davis Company, Publishers, Philadelphia, Pa., 1903.

This very unique volume gives a very clear study of the physiology and clinical pathology of the adrenal system. The secretions of the thyroid and thymus glands, pituitary body, the vasomotor functions, the vagogastric nerve, the cardiac and pulmonary function, the questions of immunity, and the relations of the leucocytes and the general chemistry of cell changes are all presented with a great variety of facts. One of the most satisfactory arrangements of the book is the conclusions at the close of every topic and chapter. The great wealth of fact and theory presented in this work would be very obscure if it were not for the many summaries and conclusions which the author gives. The following quotation gives a fair idea of the minute discussion of the subject: "Acute alcoholism probably typifies better than any condition brought on by poisons the fall from a primary intense erethism of the cerebral circulation to the opposite state through suprarenal insufficiency. The cheerfulness and the gestures of the inebriate often reach a stage of incoördinate excitement, mental and physical. If deterioration of the cerebral cellular elements have occurred through previous excesses and delirium tremens appear, the delirium is attended with terrors and frightful visions. Here again the suprarenal glands are shown to be primary factors of the process by the excessive muscular activity. It would appear that the action of the secretion upon the heart itself or walls of the arteriols causing contraction of the walls of both the muscular vessels and of the heart muscle is followed by centrifugal pressure in the cerebral capillaries. This is a source of hyperaemia found in the post-mortem. In alcoholic mania with strong bounding and tumultuous pulse

there is indication of excessive suprarenal activity. When the adrenals loose their hold consciousness fails and insensibility follows." The following is given as a conclusion: "The adrenals are potent factors in the efforts of the organism to prevent the destructive effects which this selective affinity engenders when poisons in sufficient doses to do harm are introduced into the circulation."

As a whole this work is a most valuable collection of researches by a great variety of authors along these obscure topics, and condenses in one volume the studies and conclusions of many authors. The book has a great value to all who are interested in the delicate metabolism of the body. The publisher has presented an elegant volume and the famous author has left a monument in this study and grouping of facts, which will be continued in another volume.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A practical exposition of the methods other than drug-giving useful in the prevention of disease and in the treatment of the sick. Edited by S. S. Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson College, etc. Volume V. Prophylaxis—personal hygiene. Civic hygiene—care of the sick. P. Blakiston's Son & Co., Publishers, Philadelphia, Pa., 1903.

This is the fifth volume of a series of eleven works which go over a new field of the natural history of medicine. The first section discusses the origin and prevention of disease, the second the diffusion of disease, the third the prevention of disease, fourth, the prophylaxis of special infection. The second part of the volume is devoted to civic hygiene, and this is divided into domestic and personal hygiene, including the nursing and care of the sick room. These various topics are amply illustrated and contain a mass of matter of the

greatest practical importance, most of it not found in textbooks. It is evident that these subjects all form an introduction to the science of medicine, and go over branches of sociology, climatology, psychology, and other allied branches so essential for an all-round physician. No volumes published cover this field so thoroughly and will be so largely read, and we commend them to all our readers.

RAYMOND'S HUMAN PHYSIOLOGY. Human Physiology. Prepared with special reference to students of Medicine. By Joseph Howard Raymond, A.M., M.D., Professor of Physiology and Hygiene in the Long Island College Hospital, and Director of Physiology in Hoagland Laboratory, New York city. Second edition, entirely rewritten and greatly enlarged. Handsome octavo volume of 668 pages, 443 illustrations, 12 of them in colors, and 4 full-page lithographic plates. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, \$3.50 net.

The second edition of Dr. Raymond's work shows many valuable additions, giving a clear, concise, and accurate statement of all the late physiological facts which are accepted as established up to the present time. The chapters on irritability and the electric phenomena of the muscles, together with that of vital heat, are admirable in the clear, lucid statements of obscure questions and facts. The chapter on the nervous functions appears to be the best descriptive account. While giving sufficient details to make the facts clear, it is not burdened with unnecessary statements which have little bearing on the general subject. Altogether the book is one of the very best single volumes on the subject of physiology for the general practitioner as well as the advanced student. The illustrations are very good, and the type and divisions of the work are admirably arranged. Such books are contributions to this field which live long after the author has gone.

MECHANICAL VIBRATORY STIMULATION. Its theory and application in the treatment of disease. By Maurice F. Pilgrim, M.D., Vice-President of the American Electro-Therapeutic Association, Professor of Psychopathy in the N. Y. School of Physical Therapeutics, etc., etc. Published by The Lawrence Press, Fifth Ave., New York city.

This work is a pioneer effort to point out the physiology and practical therapeutics of mechanical vibration in the treatment of disease. This summary explains fully the results which are found to follow the use of this means:

- (1) Increasing the volume of the blood and lymph flow to a given area or organ.
- (2) Increasing nutrition.
- (3) Improving the respiratory process and functions.
- (4) Stimulating secretion.
- (5) Improving muscular and general metabolism, and increasing the production of animal heat.
- (6) Stimulating the excretory organs and assisting the functions of elimination.
- (7) Softening and relieving muscular contractures.
- (8) Relieving engorgement and congestion.
- (9) Facilitating the removal through the natural channels of the lymphatics, of tumors, exudates, and other products of inflammation; relieving varicosities and dissipating eruptions.
- (10) Inhibiting and relieving pain.

The author has succeeded in a most admirable way in making clear a number of obscure states, and showing the possibility of relief and restoration from this particular therapeutic means. The book serves a very useful purpose of opening up a new field and indicating some ways in which treatment may be successful. We shall look forward to a larger and more exhaustive study by the author in this field, and believe that it can be used with great satisfaction by all persons who are treating nervous cases.

The ninth international antialcoholic congress, held at Bremen, April 9th, this year, was noted by the number of papers presented by medical men. The following are the titles of some of these papers: "Alcoholism and Tuberculosis," by Dr. LeGrain of Paris. "Alcohol in the Process of Life," by Dr. Plotz. "Alcohol as a Food," by Dr. Fraenkel of the University at Halle. "Man and Narcotics," by Prof. A. Forell. "Alcoholism and Beer," by Prof. Endeman of Halle. Many other papers were presented on the moral side of the drink question.

The *Review of Reviews* may be called an almost indispensable journal for the doctor's table. It gives each month a most excellent summary of the best literature and the current history of events. The separate articles and comments are thoughtful and conservative and eminently reliable. There is no monthly published which brings greater variety of useful information than the *Review of Reviews*. Address, 13 Astor Place, N. Y. city.

The *Homiletic Review* is a magazine which has its place, and recently has had some very interesting articles on "Archæological Discoveries." The scientific reader needs to have other subjects presented than science, and the *Homeoletic Review* will furnish a great fund of stimulating thought every month.

The *Popular Science Monthly* is noted this year for the continuous article appearing in the successive numbers on "Heredity Among the Monarchs of Europe." Other papers are equally interesting.

The American Medical Temperance Association will hold its annual meeting at New Orleans, May 6th and 7th. A number of very excellent papers are promised.

The American Association for the Study of Inebriety will hold a quarterly meeting June 3d at Catonsville, Baltimore, Dr. Grundy's Sanitarium.

The English Society for the Study of Inebriety propose to issue a journal, which we shall heartily welcome.

The *Scientific American* is a weekly that is never destroyed but always put away for future reference.

Editorial.

**PATHOLOGICAL CHANGES WHICH PRECEDE
INEBRIETY.**

Evidently, much of the stress of modern life is registered in defects of the vascular system, particularly the arteries of the brain, liver, and kidneys, and also on the heart. The sudden strain on the latter organ forces the blood in convulsive jets with spasmodic force through the delicate circulatory system of the brain. The normal rhythmic current is disturbed and contraction and dilatation is irregular. Both the nutrition and elimination are checked, and the chemical changes in the brain, also the absorption of oxygen and nutrient matter, are deranged. The elimination is interfered with. The coats of the arteries are distended and irritated by the presence of toxins. Soon this deranged circulation extends to the vaso-motor centers, and the normal contraction and dilatation of the arteries are changed. The general symptoms of these conditions are exhaustion, irritability, and nervousness. The functions of both the liver and kidneys are disturbed and elimination is diminished. These are the states for which alcohol proves to be a most grateful sedative. The action of alcohol paralyzing the vaso-motors and diminishing the oxygen-carrying properties of the hemoglobin of the blood still farther intensifies the existing derangement. Following this are local inflammatory states with deposits of fibrin and salts on the inner and middle coats of the arteries. Fibrosis and artero-sclerosis and cirrhosis of the liver appear. Irritation, inflammation, and starvation are the conditions present, with spasms of the

smaller peripheral vessels shutting off the circulation in certain directions and increasing it in others. The nutrition becomes more defective with the changes in cells and dendrites. Finally, neurites of the terminal nerves occur. In some instances a sudden shock, either physical as from a blow, or psychical as from profound mental emotion, may produce changes in the brain circulation, diverting energies, deranging nutrition, and increasing the growth of toxins without increasing the power of elimination. All these conditions are intensified by the action of alcohol. Both the heart, liver, and kidneys are over-worked in their effort to correct such changes and derangements. There are many psychological reasons for the hypersensitiveness to alcohol noted in modern civilization. The high tension pulse and the rapid arterial changes from the effect of sudden changes, all provoke psychical conditions which alcohol has a peculiar power of covering up and intensifying.

INEBRIETY FROM ALCOHOLIC CONTAMINATED AIR.

A porter who, with his wife and two children, lived over a wine-cellar, after a prolonged period of invalidism became delirious in the morning and was practically intoxicated. This happened on several occasions, particularly on cold days when the doors and windows were closed, and when the work in the wine-cellar of changing spirits from one place to another was very active during the day and evening. His family went away on a visit and recovered; he remained, but complained every morning of the characteristic symptoms of alcoholic intoxication. After a time the real cause was discovered in the alcoholic contaminated air of the cellar, which came up through the cracks of the floor and was inhaled all night. On occasions when the spirit dealers were

blending new forms of drinks the air was worse, and he suffered more next morning. A change of residence proved that the causes were the alcoholic vapors from the cellar below. This case called attention to the possibility of being an inebriate without drinking spirits, of which several examples have been published. The air of distilleries, wine and spirit vaults, and drinking saloons where large quantities of spirits are used were found to contain a very appreciable amount of alcohol. It is said that the air of the cellars in the London docks where large quantities of spirits are stored produces a peculiarly stimulating effect, followed by depression and nausea, by merely walking through them. The great brandy stores in Paris have a very marked odorous air which causes exhilaration and quickening of the pulse even from a slight visit to them. Barkeepers in England complain bitterly of the bad air. From some experiments made in the air of distilleries it has been found that no less than half an ounce of proof spirits have been found in five or six cubic feet of air. These are in the vaults of distilleries where changes of spirits were frequently taking place. Sherry wine is known as highly ethereal and volatile, hence where it exists, unless kept in very close casks, there would necessarily be a large amount of evaporation. Inhalation of alcohol through the lungs is a very common avenue to the circulation. Most naturally the detrimental effects of spirits from the air would be felt in the brain centers from this source. It is strange that this has not occurred before, and that some effort has not been made to prevent this dangerous source of infection. It is said that persons working in these contaminated atmospheres are invariably invalids and not necessarily drunkards from the use of spirits or its beverages. Probably an immunity takes place to some degree which makes these persons oblivious to the immediate effects, but in the end the injuries are very marked.

ALCOHOLIC REVOLUTION IN PARIS.

The publication of the government studies of crime, disease, mortality, and the birth-rates of France have indicated that alcohol is one of the most prominent causes. As a result a widespread alarm pervades the country, and many most startling pamphlets are scattered broadcast calling attention to this danger. One writer declares France to be suffering from acute degenerative alcoholism. Another calls it acute marasmus, and calls on the government to use every endeavor to check this most dangerous disease which is apparent everywhere. In Paris a report on the dangers from alcohol prepared by Professor Devore, dean of the faculty of medicine, and Dr. Faisan, a physician to the Hôtel Dieu, was presented before the Conseil de Surveillance. This conseil ordered the following extract from the report to be printed and posted all over the city on the bulletin boards, and in the saloons and public places, as a warning to the public:

"Alcoholism is chronic poisoning resulting from the habitual use of alcohol, even when this does not produce drunkenness.

"It is an error to say that alcohol is necessary for workmen who are occupied in fatiguing labor, that it gives courage for the work, or that it repairs the strength; the artificial excitement it produces soon gives place to nervous depression and feebleness; in reality alcohol is of use to nobody, it is harmful for everybody.

"The habit of drinking spirits leads rapidly to alcoholism, but the so-called hygienic drinks also contain alcohol; there is only a difference in the dose. The man who drinks each day an immoderate quantity of wine, cider, or beer becomes alcoholic as surely as he who drinks spirits.

"Drinks called absinthe, vermouth, bitter aromatic liquors (eau de melisse, or eau de menthe, etc.), are the most