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OF

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PUBLISHED UNDER THE AUSPICES OF THE AMERICAN ASSOCIATION FOR THE STUDY AND CURE OF INEBRIATES.

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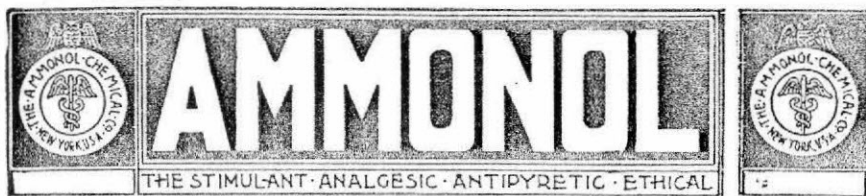
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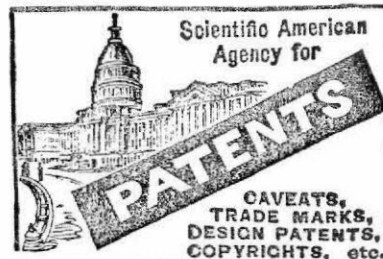
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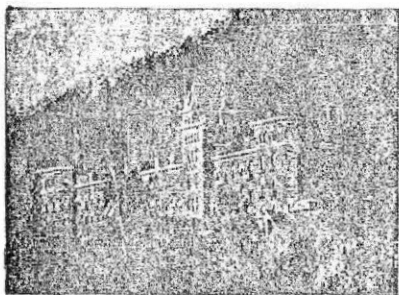
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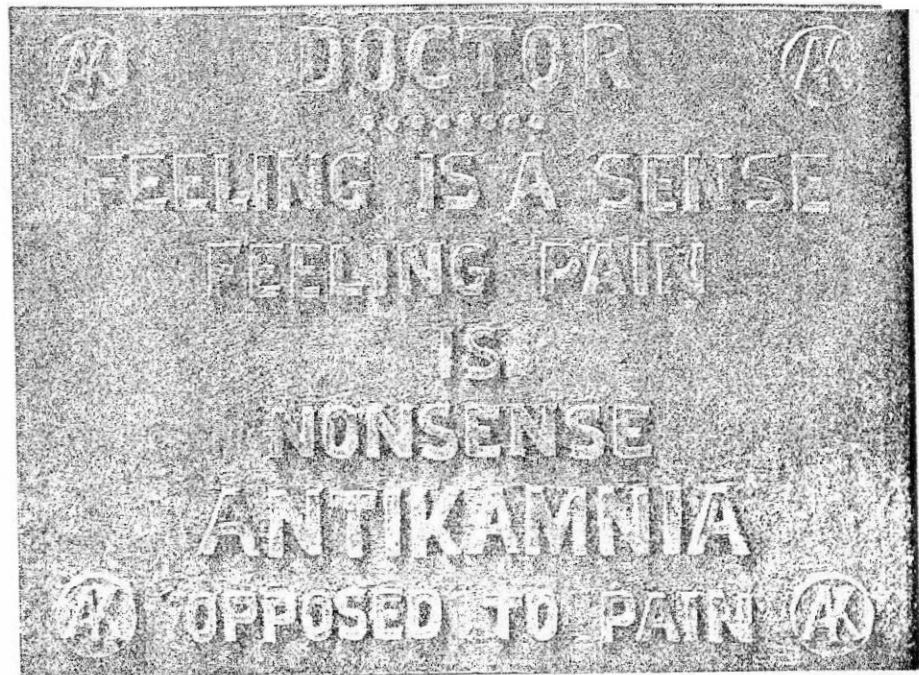
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CLINICAL TREATMENT OF INEBRIETY.*

BY T. D. CROTHERS, M.D.,

Superintendent of the Walnut Lodge Hospital, Hartford, Conn., etc.

The medical treatment of inebriety is becoming more and more prominent in all circles of practice. The recent textbooks of medicine and therapeutics not only give prescriptions for alcoholism, but also describe the symptoms and give details of the pathology and of complicating diseases. How far the effects of alcohol have been active causes of disease is the topic of an increasing number of papers, journals, and addresses.

Both general and special practitioners are called with increasing frequency to give help to persons addicted to the habitual use of spirits or of some drug. Many of these calls are for emergency cases, where the patient is delirious or is stupid and comatose, or hears threatening voices and sees terrifying objects, or talks of suicide. The family and friends are alarmed and the physician is called. In other, more com-

*A lecture delivered before the New York School of Clinical Medicine.

mon, cases the patient after a prolonged excess feels the need of medical care, and begs of his doctor to give relief, to do something which will prevent him from suffering in like manner. The physician is not clear about the best means to be used. If he prescribes opium in any form, chloral, or other narcotics, the increased delirium or profound stupor may be followed by sudden death. His anxiety is enhanced by the thought that the narcotic may have been the cause of the trouble. If he gives emetics or drugs of like character, the depression is augmented. Remedies recommended in the text-books are not satisfactory; hence there are difficulties and doubts, which are shared by the patient. After some experience of this kind the doctor is dissatisfied, and the patient drifts off into some gold-cure asylum or takes secret drugs and seems to recover. Then he goes about giving the most extravagant praise to the means and remedies used.

To the physician there is a great certainty that no new remedies have been employed, and that the managers and medical men who conduct these places or give the specifics are neither reliable teachers nor scientists and do not possess anything which could not be known by every practitioner. When members of old families who have been devoted friends of the physician obtain relief from such doubtful sources and by such mysterious means, a feeling of regret comes over the doctor's mind that he should not have been able with all his knowledge and training to have the same success as the quack.

In almost every neighborhood there are persons who become disabled from the use of spirits and drugs and seek medical aid, and a still larger number of persons are alarmed at the imperative nature of their morbid drink impulses and consult a physician. There is a consciousness in the minds of both patients and friends that these morbid impulses may explode in some phase of insanity, attended with extraordinary conduct or criminal acts which may be very serious.

The brief duration of these cases makes them tolerated by both the family and community, the public becomes apathetic, and the physician, after trying various means without success, falls back into the same routine and regards the case as a general hysterical condition in which the will of the patient is very largely at fault. This unsatisfactory experience in obtaining physical help sends innumerable patients back to the moral remedies, such as the pledge, the prayer, the persuasion of friends; and the result is a startling increase in the chronicity and incurability.

The first exact treatment ever attempted for inebriety as a disease began in Binghamton in 1864. From this time the medical study and treatment of inebriety has been along lines of more or less scientific exactness.

There are now about thirty asylums devoted in whole or part to the medical treatment of these cases in this country, and an equal number in Europe. Already there is beginning to be some classification of the inmates, also some settled plan of treatment founded on exact scientific study. As in all other new fields, there have been a great many experiments which have been failures. Inebriates are difficult to treat, requiring special surroundings and conditions and great expertness and judgment in their management. A number of asylums have been abandoned, owing to the difficulties of treatment and control. In reality the inebriate is more curable than the insane, but the treatment must be based upon knowledge gained by accurate study of the conditions which both cause these toxic disorders and follow them. Some of these conditions which are recognized may be outlined in the following:

First, there must be a study of the hereditary causes of retarded brain growth, entailing instability with morbid tendency and feebleness of control. Second, the influence of traumatism from concussions, injuries, heat stroke, or shocks to the nervous system; also wasting diseases of childhood or

later life, and their sequelæ. Third, the starvations, excesses, drains, and strains which have provoked the use of spirits; also the contagion of environment. Fourth, the family relations to insanity, epilepsy, hysteria, and general nerve and brain disorder. Fifth, the explosive and convulsive symptoms, such as the gathering and bursting of nerve energies at stated intervals, and the derangements which precede and follow them. From this study of causes the pathological effects must next be determined. How far has the use of spirits intensified all previous degenerations and formed new pathological conditions and new sources of disease? What organs have suffered most seriously? How far is the demand for alcohol a symptom or an exciting cause? Then comes the question of classification. Is the patient a paroxysmal inebriate, or does he belong to the delusional class, or is he of the senile or demented type, or is he a mixture of these types? Having ascertained these facts, the question of treatment resolves itself into the application of special means and measures which will specifically apply to the class and the case.

The fact should always be recognized that the drink impulse is a self-limited one and will die out under favorable conditions. Where the exciting and predisposing causes can be clearly marked out, their removal is the first step in the treatment. Nearly all cases which come for treatment have passed the early stages and are approaching chronicity; hence, are more difficult and require longer treatment. If the patient goes to an institution, it should always be at some distance from his home, among new surroundings and altered conditions of life. The mental effects of being among strangers in changed conditions of life and living are always very valuable in breaking up old conditions and habits.

In all of these cases there are three prominent conditions to be overcome — viz. : poisoning, exhaustion, and starvation. The poisoning comes not only from the toxin of alcohol, but

also from other toxins and ptomaines which have been or are being formed in the system from favoring conditions of soil and growth; exhaustion from the continuous depression of narcotism, and the sensory derangements and nutrient disturbances encourage anæmia, starvation, and nerve debility. All such cases suffer from the degrees of paralysis, vasomotor, sensory, and functional. Subacute inflammations with congestions and irritations are also common. The heart's action is disturbed, and the organ is damaged both functionally and structurally. The liver is enlarged with interstitial growths and fibrinous deposits. Neuritis of the lower extremities is very common. There are always present in these cases congestions and defective eliminations of waste matter, also chemical and physiological changes due in part to the action of alcohol and the result of ptomaines and bacterial growths.

The first general treatment is the removal of the apparent cause. This is not infrequently alcohol, although many other sources of irritation and faults in the organism and surroundings are active causes. Breaking up the craze for alcohol is not curative when the causes are more remote. To produce disgust for alcohol in this way and destroy the desire for it is not always a wise measure, although among the quacks this seems to be the central purpose of all treatment. If the patient is a periodical drinker, this craze for spirits can be overcome by a variety of measures. Strong infusions of cinchona or quassia given in large doses every hour will soon be followed by a willing abstinence. The method of provoking emesis by apomorphine, tartrate of antimony, or ipecac may sometimes be very valuable, but usually the apomorphine, antimony, or other drugs of this class are more or less dangerous, and, while they will stop the desire for drink, are followed by conditions of depression and exhaustion that are often serious. The quack method of provoking emesis and giving these persons alcohol following it, with the dominant idea that spirits are poisonous, is not always safe. If

the patient persists in the gradual reduction of the amount of spirits and believes that the sudden withdrawal will be attended with great danger, his feelings should be regarded and acted upon, only insisting that every dose of spirits should be followed by a dose of infusion of quassia or cinchona. Very soon a profound disgust for alcohol and sudden willing abstinence will follow.

Often at the beginning a strong cathartic and hot bath will destroy all thirst for alcohol. The first general treatment should be prolonged hot-air or hot-water baths, with profound elimination through the skin, accompanied by vigorous rubbing. This should be continued every day until profound relaxation of all the excretory organs follows. An electric light bath, in which the patient sweats by light as well as by heat, is one of the most powerful eliminatives we possess. Perspiration is produced in a very few moments, accompanied by general relaxation and not unfrequently by active catharsis and diuresis.

After the alcohol is removed and the spirit craze dies out, nitrate of strychnine is an excellent remedy. Its more immediate effect can be obtained by the needle under the skin than by the stomach, but the latter method is preferable. The use of this drug should depend largely upon the conditions present. In some cases it may at the start be given in full doses — one-twentieth of a grain three or four times a day — and in the course of a week this amount may be diminished. After two or three weeks nux vomica should be substituted for it. This can be used a few weeks longer, then should be dropped a short time and afterwards taken up again. Attention should be paid to the bowels during this period, and mild catharsis from salines every two or three days will assist greatly. Hot-air and hot-water baths are necessary every day to increase assimilation and diminish the products of decomposition. Often profuse sweating and rubbing and saline drinks are almost specific remedies. These are general meas-

ures which are required in all cases, particularly at the beginning of the treatment.

If the patient belongs to the paroxysmal class and is in a comatose state, hot applications of water and hot baths are the first indications. Oftentimes a shower-bath in which hot water and cold water are used alternately is a most effectual stimulant to break up the coma. Narcotics, particularly chloral and opium, are uncertain and dangerous at this stage. The coma will disappear in a short time if the patient is left on his back in a room filled with good air. On a subsidence of the coma, carbonated waters or seidlitz powders should be given. Often a dose of calomel has particular antiseptic and stimulative qualities. Hot water is also very valuable at this time, particularly if there be irritability of the stomach. If the patient insists on having spirits, a small dose should be allowed, with quassia or bitter tonics. A preparation called quassine, containing a small quantity of apomorphine, combined with quassia, is very useful. The amount of apomorphine is not large enough to produce emesis, but is sufficient to produce some sedative action on the sensory nerve centers. Carbonated waters are usually very grateful at this time, and in their absence a drink of bitartrate of potassium mixture will be acceptable. An acid is often craved. Hydrochloric or phosphoric acid, well diluted, may be given.

When the drink paroxysm and the acute symptoms subside, *nux vomica* is very useful. For the exhaustion, if the stomach will bear them, various concentrated foods may be taken at short intervals, particularly milk and malt compounds. The patient should remain in bed and bathe twice a day, and have massage if there are any neuralgic states present. When the paroxysm dies out, an iron and arsenic tonic can be used to restore vigor. For the insomnia which frequently follows, hot baths before going to bed, with valerian, *hyoscyamus*, or *lupulin*, and other mild narcotics of this class, are often sufficient. Some of the coal-tar analgesics are also

valuable. Care should be taken not to prescribe any of these remedies long.

The paroxysmal cases often have distinct periodical returns of the drink storms, and these should be studied and anticipated. Many of them are preceded by distinct premonitory symptoms: one man will become very irritable and fault-finding before using spirits; another will be parsimonious and have delusions of fear that he will be impoverished; another will have delusions of benevolence and generosity; a third will have periods of great physical and mental activity. These mental conditions presage the coming storm, and, when recognized, can be treated medically with great success. In one instance a man who becomes very melancholic for several days before these drink storms come on is treated by the family physician, and the drink storm is averted. The patient is unconscious of the meaning of these emotional changes, but, having great faith in the physician, he follows his directions implicitly. In another case a lawyer has a mania for work and indisposition to sleep or rest for several days before he drinks. His family physician is able to break this up by Turkish baths and large doses of lupulin at night. In this way several drink paroxysms have been averted. Intimate friends of patients recognize the emotional changes which are precursors of the storm that is coming. Many patients also realize this, and learn after a time to make personal efforts to divert these attacks. A prominent lawyer has insomnia, also distressing dreams, several days before he drinks. For many years he has been able to keep sober by taking very active measures to change and divert his nerve energies at such times.

Sexual excess is another premonitory symptom; so is nutrient excess. As an illustration of the latter, a leading New York editor would leave his office in the early evening and eat inordinately, a few hours later would again eat heartily, and soon afterwards would drink to great excess.

He never seemed conscious that this abnormal appetite was a premonitory symptom. At all other times he was abstemious in his diet.

Migraine and sensory changes in the surface of the body precede the drink storm. So also do extreme hyperæsthesia to cold. The patient will suddenly go into a saloon and drink hot fluids to overcome this condition, and this will be followed by a drink paroxysm.

These premonitory symptoms are very numerous, and when studied are found to be significant of the physical and psychical changes which are going on. Medical treatment at this time will effectually break them up and in many instances completely remove the exciting causes. One gentleman, who has been an abstainer for twenty years, whenever he has a severe headache goes to bed and receives treatment for indigestion from his physician. A day or two afterwards he recovers. These headaches are premonitory symptoms of drink attacks, which he has learned to heed. They are termed "bilious attacks," and due to the presence of toxins; also are intimations of a periodical drink storm.

Profound elimination by both skin and bowels is the leading remedy for all these cases. In this there is removal of toxins and poisons which are often exciting causes. Next to elimination is exercise or rest. One man with these premonitory symptoms is able to break them up by prolonged exercise out of doors, another by rest in bed with nerve quietness. In a certain number of cases narcotics may be used to check the nerve irritation. Where the patient appreciates his own condition, the best results may be expected.

Hypnotism at this time has been effectual. This is simply the dominance of a new idea which seemed to break up the morbid impulse. Many very curious cases will appear along this line where insignificant remedies have been used to fix a dominant idea that completely broke up the drink impulse. Each case must be carefully studied and its psychosis observed

with great exactness. I have found that suggestion, hypnotism, and counsel unsupported by physical remedies and measures are useless. Often a radical change of life and living enables one to carry out the counsel of his friends. Electricity, particularly of the static form, is often a practical remedy.

The treatment of the second class of delusional inebriates is more complicated because of the mental element present. They have parietic delusions of great vigor and strength, and ability to stop at any time and place. There is an erethetic condition of delusional hope and general optimism. The treatment here will vary. The same poisoned and starved state exists, but it affects the higher brain centers. Elimination by baths and cathartics is essential. Then constitutional remedies are required, such as iron, arsenic, or phosphorus. When there is any suspicion of syphilis, mercury may be added.

In such cases the oncoming of general paralysis is always to be feared. The mental exaltation is very symptomatic of profound brain lesion. As a rule, such patients should be advised to give up business, or at least change their occupation and methods of living. The man who is intoxicated frequently, and has delusions that he can stop when he likes and that his dissipated habits are insignificant and in no way impair his vigor, is in a very dangerous condition. At any time most serious brain lesions and disorders may develop.

The third class of inebriates, the senile and demented victims, who daily imbibe small drams, and who seem to be governed by no purpose or plan, drinking or abstaining according to surroundings and conditions, and who when using spirits in excess are stupid and demented, require special treatment. They are equally dangerous, and need the same constitutional remedies, such as iron, phosphorus, and arsenic. The same elimination must be carried on constantly and with military exactness. The poisoning from which they suffer

produces depression of all the organism, and is followed by acute disease or by dementia and idiocy.

These patients require a radical change of life and living. The higher governing centers are broken up, and if there is specific infection the difficulties are increased. Such persons very often become drug-takers, and great care should be exercised not to use narcotics, particularly opium, chloral, and remedies of like character. They rarely require drugs of this class, although they sometimes suffer from neuritis, but seem less sensitive to pain than other drinking men.

Patients of this class often call the family physician for some local troubles which they ascribe to malaria or traumatism. In this way the doctor may become very active in the care and control of the case, the patient supposing that he is being treated for some local affection while the physician is addressing his remedies to the general condition. To such persons apomorphine in small doses may be given with the spirit or directly after it, and in this way produce a mental effect which may be instrumental in breaking up the use of alcohol, but the febleness of the brain will require some substitute for its mental effect.

These three classes of patients come very often to the family physician for help and require different courses of treatment. The cases are often complicated with other diseases, which appear when the spirits are removed.

Tuberculosis is a common sequel after the withdrawal of alcohol. Demented states follow, and often paresis. Neuritis, often called rheumatism, starts up with great activity, and, after running a certain course, seems to react on the brain, producing profound dementia. Organic disease of the kidneys, which apparently has been masked, comes into notice at this time, ending in death. Other organic diseases appear which have been concealed before.

In such cases it is often uncertain how far these diseases have been caused by the use of alcohol or how far alcohol has acted as a mask to conceal them.

Many patients after the removal of alcohol became drug takers. There is a tendency to find relief, real or imaginary, from some drug; hence the danger of using narcotics in the treatment. The various "gold cures" and "specifics" are particularly dangerous in this direction. They undoubtedly increase the degeneration and toxic states of the system, and the breaking up of the drink craze is insignificant compared with the injury resulting from the use of unknown drugs. Thus a large number of persons treated by specifics develop acute diseases, which end fatally. Many of these victims die of pneumonia, heart failure, nephritis, and manias which deepen into melancholy and exhaustion, all evidently due to the depressing action and irritant properties of the drugs used.

While strychnine is very powerful in its action and frequently breaks up the drink craze, it is not a universal specific remedy. When given indiscriminately, its stimulant action may produce an increase of the irritation which it is supposed to allay. Often its use in large doses is followed by more nervousness and tremor and a disposition to break out into drink paroxysms again; in such cases the system is very susceptible to its action. Where it is combined with atropine, cannabis indica, hyoscyamus, and drugs of this class, its effects may be concealed and the injury less prominent.

The bromides are valuable, especially the bromide of sodium, but it should always be given in large doses — from fifty to one hundred grains or more. This may be repeated several times a day, but should not be continued longer than two days; bromism is to be avoided.

Chloretone is a remedy which has recently come into prominence. So far its effects are very good. As a mild narcotic in some of the states of irritation and insomnia which are associated with these cases, it may be used.

The treatment of the complications and conditions which follow from the use of alcohol should all have reference to the perversions and exhausted conditions.

Hysteria is one of the common sequelæ; periodical drinkers often show stages of this disorder. In such cases exercise in the open air, long periods of rest, both mental and muscular, with absolute uniformity in matters of diet and surroundings, are most essential.

It is often a question what degree of exercise and change will lessen the nervousness and become strengthening, or how far a change of occupation may be a helpful remedy. These are questions which the physician must decide.

Within the last few years the presence of influenza has complicated many of these cases and added to them a new source of poison, which not only increases the degeneration but also turns it into different forms of serious diseases. Where there is a history of malaria and influenza, due regard is to be given to the profound exhaustion which is associated with these affections.

Unfortunately, these cases are rarely placed in institutions until they have become chronic; then, the curable stage, which might have been successfully treated at home by the family physician, has passed. In my experience of twenty-four years I have seldom seen recent cases coming to the asylum for treatment. As a rule, all persons on admission are found to have exhausted every available means of relief at home and to be suffering from perverted and organic changes of both brain and body. As a result, their care in institutions requires a longer time and more exact surroundings and therapeutic methods than would have been used at home in the early stages. While the essential treatment is the same, yet it must be more heroic and associated with restraint and forced rest and many other means which are not found in a private residence.

The treatment of delirium tremens, both incipient and pronounced, is not infrequently called for in the patient's home. Where he is not destructive, but has mild delusions and the family can care for him, he should be treated at home.

The old therapy by opium, chloral, cannabis indica, and other narcotic drugs is exceedingly uncertain and more or less dangerous. With the aid of an efficient nurse, who is able to give baths and massage, and who is vigilant and alert, the case can be carried over the violent stage without other than the mildest hypnotics, of which hops, valerian, and some of the vegetable narcotics are most common. Sulphate of magnesium, in small doses, is a very excellent remedy. Calomel, given every other day until copious discharges from the liver are secured, is also useful.

The delirium ought not to be suppressed by drugs unless violent and distressing. It is easily controlled by hot baths and profuse sweating.

The routine treatment of overfeeding during this stage is not practical, although conditions of exhaustion are present. Toxæmias are to be dreaded, and should be guarded against. Beef tea and other liquid nutrients should not be given for the first two or three days; acid drinks, either cold or hot, are more effective. The danger of exhaustion is very slight compared with overfeeding and adding to the toxic states already present.

After the subsidence of the acute symptoms liquid foods may be given in small quantities at short intervals through the day. Carbonated waters will aid materially in restoring the lost chemical conditions of the system.

Psychical care and watchfulness are very essential at this period. The patient's mind should be treated and no disturbing influence allowed to come in, but the utmost frankness and candor should be used.

The profound anæmia which follows requires long rest in bed and frequent massage.

Milk may be valuable, but this depends upon its digestibility.

Nux vomica and preparations of arsenic are the most satisfactory remedies which have been used up to the present.

Attention should be paid to prevent the patient's mind from dwelling on any particular thing or event. It is peculiarly liable at this time to take on illusions and delusions, which must be diverted and changed.

I cannot state too strongly the danger of trusting to specifics in cases of this kind. All such remedies must of necessity contain drugs which in a large proportion of cases are decidedly injurious. All they can do will be to break up the drink craze temporarily. Beyond that, hypnotic influences may be able to create a dominant idea of cure, which may last for some time.

In the treatment of all these cases tinctures are to be avoided, as they contain a large quantity of alcohol. Nearly all the bitter drugs can be obtained in infusions, and, as they are of limited value and for a brief time, they are easily substituted.

Cocaine is probably one of the most dangerous of all the drugs given in the stage of recovery of such cases. Many of the preparations of kola and coca now sold are fortified by cocaine, and hence are very attractive and produce deceptive effects. A number of alcoholic cases have become cocaine-takers from the use of specific drugs, and this condition is more distressing than the first. Some of the specifics contain morphine or other preparations of opium.

I have frequently been appealed to for advice and prescriptions in regard to young men who insist on using spirits as a tonic for some conditions of exhaustion. The problem is an exceedingly difficult one, and requires an exhaustive study of the conditions and of the mentality and surroundings of the patient. Often it is a question of psycho-therapeutics which will tax the ingenuity of the physician to the utmost.

An eminent physician in New York found in a young man of this class a serious heart lesion, and, by holding up before him the possibility of sudden death, he was able to impress

upon him the danger of the use of spirits, and in this way was able to regulate his habits of life and living. This young man is now temperate, and has been well for many years.

Another case of this class occurred in a singularly obstinate man about fifty years of age who was breaking down rapidly from the use of spirits, and who did not recognize his condition, but believed that alcohol was a tonic and food for him. The physician, with the aid of the wife, narcotized him profoundly and then nauseated him with various remedies, keeping him in bed for two or three weeks, and, impressing on his mind the extreme danger of sudden death, succeeded in creating a profound disgust for alcohol and causing him ever afterwards to be an abstainer.

These are, of course, exceptional cases, but they show the value of psycho-therapeutics in this realm. It will be gratifying to know that, notwithstanding the great variety of methods and means used, both empirically and otherwise, the curability of such cases is far greater than one would suppose. A very careful examination was made of the after history of 1,100 cases treated at the Binghamton Asylum; ten years after their discharge sixty-one per cent. were found still sober and temperate. Statistics gathered from a small number of cases show that from thirty to forty per cent. of all persons who were under treatment for periods of from four to six months were still abstinent after fifteen years. Other statistics confirm these conclusions, and we are now justified in the assertion that at least thirty or thirty-five per cent. of all persons treated never use spirits again. These facts are most encouraging. If this percentage of cases can be restored after becoming practically chronic, treatment in the early stages under the family physician will be much more successful.

Experience shows that a certain number of these persons cannot be treated at home even in the earlier stages. Yet there are other cases where the most successful treatment

can be applied by the family physician at the patient's residence. Where the causes can be recognized and provided against, often their most effectual removal can be secured in the family and home.

There is another phase of this question which gives promise. If quacks and charlatans, by means of empiric remedies, can break up the drink craze and impress the mind with the dominant idea of cure in a certain number of cases, either large or small, much greater results can be obtained by known remedies applied by scientific intelligence and therapeutic skill.

Another fact suggests even wider possibilities. A certain number of cases, even in the chronic stages, suddenly recover by means of the most extraordinary agents, which had been applied many times before without success, or by agents whose usual effects are entirely insignificant compared with the results obtained from them. In almost every community are persons in whom the drink craze suddenly subsided and ever afterwards they have been total abstainers. This phenomenon is usually explained by giving credit to the last thing used as a remedy, or more commonly by saying that the patient willed to stop. No thought is taken of the fact that he had tried so many times before and failed, but the fact that he succeeded this time is to the mind of many persons evidence of his will power. The true explanation is that some physiological change occurred in his brain and the alcoholic craze died out.

The central object of treatment, therefore, is to bring on this physiological change, and, by removing the causes and building up the system, to check the alcoholic desire or hurry it to its natural termination.

Many cases are noted where the drink symptom has subsided and other states of degeneration or forms of morbid impulse, such as drug-taking phobias, manias, and delusions, have followed. There is no doubt that some organic change exists of which these are only manifestations.

There are in every community a large number of persons who are recognized as incurable. They are a menace to all hygienic conditions of healthy life and living. Not far away in the future they will be gathered into institutions and made self-supporting. Such persons need military care and direction. They are incapable of enjoying the freedom of healthy men and women, but could be made to live temperate and fairly normal lives under the direction of others. There is something appalling in the statistics of 1899 of a million persons arrested for drunkenness and crimes growing out of this condition. It is this army of unknown, untreated, diseased degenerates that perils our civilization, our homes, and our home life. They should all be gathered into institutions and made to live normally and work for the best interests of the public. A certain number of them could be restored and go back to healthy life and living. Others could be kept from the injury which results from their contagious example.

While we recognize this possibility and feel that it is one of the certainties in the near future, we are, as physicians, concerned with the recent cases, the cure and prevention of the malady which disables men and women in all parts of the country. This is the new field for medical practice.

There is something startling in the fact that this new, outlying field of medical practice is at our doors, and is practically unoccupied except by charlatans and quacks. Some of the facts with which I conclude may be stated as follows.

First, the inebriate is suffering from both a neurosis and a psychosis, and is curable at some stage or another of his disease. At all events, he can be helped.

Second, the conditions requiring treatment are poisoning, starvation, and exhaustion.

Third, the methods to reach these conditions are included in the following: elimination by the skin, bowels, and kidneys, rest of nerves and brain, and building up.

Fourth, mental and psychical treatment which has for its

purpose to rest and divert the mind and break up the conditions which have grown out of the past.

Fifth, a study of the exciting causes with the object of removing them or preventing or diminishing their power and influence.

Sixth, the treatment of the conditions which have grown out of the use of alcohol and drugs so as to restore health and vigor and enable the patient to live along normal lines in the future.

Seventh, this treatment and the therapeutic remedies needed to carry it out will vary with the man and his circumstances.

DEAFNESS FROM TOBACCO HABIT.

In the December number of the Birmingham (England) *Medical Review* appeared an interesting account of a soldier who was being invalided home from South Africa, suffering from enteric fever, and who on the voyage smoked largely of a coarse, strong twist, the chief merit of which was its cheapness. He shortly developed tobacco heart and with it complete deafness. The patient was told to give up smoking, and, after doing this for a month, both heart and hearing were greatly improved. It is not likely that the deafness was due to the enteric fever, as the labyrinthine complications following that disease are very unfavorable, and not likely to improve without earnest treatment. The relation between deafness and the abuse of tobacco is generally due to the irritant effect of the tobacco on the upper air passages, inducing catarrhal conditions which may spread to the middle ear through the Eustachian tubes. Hence the best explanation of chronic deafness in inveterate smokers is that it is due to a simple middle-ear catarrh. The possibility of a chronic neuritis of the auditory nerve similar to tobacco amblyopia, which Moss claims to be the cause of smokers' deafness and tinnitus aurium, cannot be denied; but so far no adequate proof has been placed before us. As far as we can judge, the case must be one of auditory neuritis due to tobacco poisoning, a condition of such rarity as to make the case referred to of great importance. — *The Medical Press*, England.

ALCOHOLISM AND CRIME—HOW WE SHOULD
DEAL WITH THE CRIMINAL ALCOHOLIC.

BY HEINRICH STERN, M.D., NEW YORK CITY.

Judges of criminals, prison wardens, and the police un-
animously concede that at least seventy per cent. of all
perpetrated crimes are directly or indirectly attributable to
alcoholism. This unusually large percentage applies princi-
pally to such offenses as the disregard of the rights of others,
and contempt for law and order, and to such crimes as assault,
rape, disturbance of domestic peace, manslaughter, and rob-
bery, for to all of these the habitual drunkard seems to be
particularly prone. Such misdemeanors are frequently com-
mitted in a moment of passion, hence entirely unpremed-
itated, 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 curb and
control the impulsive and irrational dictates of his passions.
He is well aware of the consequences awaiting him upon the
perpetration of a crime, and, weighing them in his mind, will
either abandon his project or exert his utmost precaution
while executing it. While the sober man is master of his
impulses, the drunkard is a slave to his emotions and passions.
At the slightest provocation the inebriate may commit an
assault or even manslaughter, and if an opportunity offer
itself, he may commit moral delinquencies, as rape, etc. But
he rarely commits such offenses as are the result of premed-
itation or design. Of all those convicted of perjury, but

twenty-six per cent. or twenty-seven per cent. are addicted to alcohol, for perjury is based on some subtle motive — either love of money or the endeavor to save another from punishment — in fact, motives originating only in the unclouded mind of the sober. Furthermore, amongst incendiaries we find but forty-five per cent. are alcoholics, for arson is premeditated and usually executed with a distinct purpose in view.

Alcohol habitually used affects principally the brain and nervous system, which lose their normal degree of resistance; their vitality and healthy activity are reduced, and a general deterioration of brain and nerve substance is the inevitable result. More remote consequences are general retrogression of intellect, debased standard of morality, and complete or partial loss of will power. We need not descend to the confirmed drunkard to find evidence of general deterioration. Even in the milder form of habitual drunkenness we find similar conditions. The habitual alcoholic shows signs of premature deterioration; his mind is more or less inactive, his general bearing is undignified, his sentiments are more vulgar, and his sense of truthfulness is deficient. His standard of morals is lowered, his love of family gradually declines, and an indifference as to the future of his offspring becomes apparent. Furthermore, he develops ruder and brutish affections, becomes irritable, jealous, and peevish, and obstinately adheres to his preconceived irrational ideas and notions. The "bonhomie" and congeniality of certain drinkers is virtually but a species of indifference, but one of the protean manifestations of chronic alcoholism.

Of all the pernicious effects of alcoholism, none is so deplorable as the fact that the offspring must suffer for the cravings of its parent. The degeneration of children of drunkards is a fact which is still more apparent when both parents have been habitual alcoholists. The chronic alcoholic affection of the brain is more or less a disease of char-

acter. The character of the drunkard is abnormal, his standard of morals is lowered, and he conceives an entirely new moral code, incomprehensible to the sober. The habitual alcoholic, like the morphine habitue, 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. The chronic alcoholic is a psychopath, who ought to be adjudged and treated accordingly. The heavy drinker, bereft of any moral sense, is without any ambition or energy. He is a coward at heart, but under the influence of alcohol he may vacuously commit a daring act, of the consequences of which, however, he has no clear conception. He cannot resist temptation, and in the association with criminals he soon becomes a criminal himself. His will power, self-determination, and clear judgment being undermined, he is often a willing tool for their adventures and culpable enterprises. Hence, association with low characters is another cause of the further 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 a workhouse, where he is in close proximity and contact with criminals. Necessarily, this must be detrimental to him who is so little capable of exerting self-determination. The alcoholic, who was perhaps but an accidental offender, may thus become an incorrigible criminal. Prison statistics prove that the more frequently an alcoholic is incarcerated, the more incapable of reformation he becomes.

If the purpose of punishment is prevention of crime, reformation of criminals, and the protection of society, then the prison is the wrong place for the inebriate offender. There the alcoholic is rarely cured of his disease; there he develops a still stronger craving for liquors, and from there, in the great majority of instances, he graduates a full-fledged criminal, a fact of which every police officer of experience, philanthropic institutions, and magistrates are well aware.

But, in spite of the disastrous condition confronting them, they have not devised any means to successfully cope with it. As the main object of sanitary science and modern medicine is prophylaxis of disease, so prevention of crime should be the endeavor of the sociologist and legislator. Agreed, if we are convinced that the drunkard is prone to commit crime, there is no reason why he should not be confined before he has occasion to do wrong. There ought to be attached to every police court an experienced medical officer, whose duty it would be to inquire into the antecedents pertaining to the physical and mental condition of the accused, and to determine whether he is suffering from the consequences of an alcoholic toxicosis. This officer should classify the different types of inebriates at least into two great groups: (a) the occasional offenders, and (b) the confirmed alcoholists. The result of his examination should be taken into due account by the police magistrate, who should sentence both the first offender and the "rounder" to confinement in public reformatories devoted to their detention, and to the rational treatment of drunkards. The two classes would be kept separately in these institutions, or, what would be still better, separate institutions should be provided for the treatment of culprits of each of these groups.

The asylum or institution, which should be managed by a special honorary state board, or by a commissioner, should be established in farming districts, so that the convicted drunkard may engage in agricultural pursuits, which, in the great majority of instances, are best suited to his peculiar mental and bodily conditions. An institution of that character, conducted on a liberal and scientific basis, where moral, dietetic, and medicinal treatment go hand in hand, where the convict is put to such manual labor as his constitution demands and permits, where rest and recreation are prescribed as the individual case exacts, such an institution will produce far superior results than may be obtained in general penitentiaries and

behind prison bars. At least a part of the revenue derived from the liquor tax should be appropriated to defray the expenses of these penal institutions. To what better advantage and purpose could this revenue be devoted than for the amelioration of the spiritual and bodily condition of these individuals, who, by their incessant consumption of alcoholic beverages in public places, are almost the main source of the liquor tax income? The establishment of asylums for the criminal alcoholic would cause the transfer of at least half the inmates from the penitentiaries. A comparatively large sum, therefore, which is annually expended for the maintenance of the latter could then be devoted to the support of these institutions. Furthermore, some penitentiaries, particularly those in rural districts, could be transformed into asylums for the criminal alcoholic, such changes involving little labor or expense. With some good will, and with the assistance of the medical and legal professions, the object in view may be readily called into existence, so much the more so as it is not a question of funds, but only one of system.

The criminal alcoholic who has spent his penal servitude — which should continue until he is cured, or if incurable, indefinitely — in an institution of such a character, leaves it regenerated. With the newly-acquired or regained energy and vigor, the former alcoholic is well equipped to start afresh in life — a healthy man, alive to the interests of home, community, and country, and a useful member of that society which today condemns him and considers him an outcast.

SWEATING IN ELECTRIC LIGHT AND HOT AIR
CABINETS.

BY DR. KREBS,

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Mrs. E. L. Transeau, Islington, Mass.]

In order to understand the working of the light bath one must know that the electric incandescent light contains only a few of the chemical rays (blue, violet, and ultra violet), but many of the illuminating (green and gold) and heating (red and ultra red) rays, while the arc light is composed chiefly of the chemical rays.

Our electric light bath is a wooden, octagonal cabinet about 1.40 metres high, the inner surfaces of which are lined partly with ground glass and partly with white enameled plates, in order to reflect the light rays; the floor is covered with linoleum; the top is enclosed with glass and contains an opening which allows the head of the patient to remain outside of the cabinet, an arrangement in every way desirable and useful, because by this means the patient is not compelled to breathe the hot air of the cabinet, and thus a possible hyperemia of the lungs is avoided. On the inside walls are placed ninety-six incandescent lamps of sixteen candle power, a part of which are in red and a part in colorless bulbs.

On four corners of this large cabinet are four small side cabinets containing arc lights of eight amperes, which are seen through blue glass plates from the inside of the incandescent light bath, but no reflection is thrown from their side surfaces.

From our experience I might say briefly concerning this kind of light bath: (1) Where the patient complains frequently of cold feet while the rest of his body is in perspiration, incandescent lights in the floor are to be recommended. An arrangement by which the heat rays are the principal ones brought into effect appears to favor the complete irradiation of the body. In order to be able conveniently to take the rectal temperature the wooden swivel stool is furnished with a leather upholstered ring of about five centimeters in breadth, in which there is a small hole.

(2) The bath ought not to be closed by only one relatively small door, opening only from the outside, like that of ours, but should be arranged so that the whole front half, including the part of the top belonging to it, could be opened from the inside as well as from the outside, like a swinging door, thus affording a convenient entrance and exit, a close-fitting top, and the possibility of airing and cooling quickly after use, as that hitherto has been a disadvantage in the way of extensive service.

(3) On the front side of the cabinet a small trap door moving on horizontal hinges should be provided. It is best located just below where the head comes when the patient is seated. Through this the occupant can extend his hand for measurements of the pulse and blood pressure without having to open the cabinet. (See Rieder.¹)

(4) In most electric light cabinets the thermometer is placed in the top and is held by a small wooden arrangement so that the quicksilver bulb — at a proper distance from the incandescent bulb — projects directly from above into the light room. But the thermometer thus situated does not show the same temperature as those placed nearer the body. I have already mentioned that many patients complain of cold feet while the rest of the body is in perspiration. When I looked into this complaint I found conditions similar to those recently published by Schreiber² concerning hot air apparatus

for dwellings. In the hot air bath the heat is not, as Solomon³ believes, conducted from all sides equally; it is only rarely that radiation issues from the floor. The thermometer hung at various heights for testing shows as a rule considerable variation, irrespective of whether the cabinet is empty or occupied.

This is shown in the following table:

INCANDESCENT LIGHT CABINET, RED LIGHT TURNED ON, OPENING FOR THE NECK CLOSED.

| | Temperature | | | |
|-------------|-------------------|--------------|---------------|---------------|
| | In the beginning. | After 5 min. | After 10 min. | After 15 min. |
| At the top, | 30.5 | 51 | 61.5 | 68.5 |
| Midway, | 28.5 | 40 | 47.5 | 55.0 |
| Below, | 25.5 | 29 | 32.0 | 34 |

From this it is seen that the midway temperature corresponds almost exactly to that of the average, and that the thermometer at the top, which is depended upon almost entirely for controlling the temperature, records not the temperature of the greater part of the air surrounding the body, but only that of the upper strata, and not even of that in all cases. For instance, if a second patient uses the cabinet soon after the first, the thermometer stands, when the air inside has been considerably cooled, several degrees higher than the air itself measures in the upper part of the cabinet. The wood, heated by the first bath, on account of its poor conductivity, gives up its heat more slowly, and the consequence is that the improperly placed thermometer records the temperature of the wood and not that of the upper layer of air. It is to be recommended, therefore, that the thermometer in the top be arranged as in an incubator, set in a hole bored in a wide cork, and both inserted lightly in the opening at the top.

(5) The arc light, as we have already said, contains only a few of the heat rays in addition to the blue, violet, and ultra violet, whose action is chemical and bactericidal. The chief purpose of the four arc lights at the sides, therefore, is the chemical and bacteria-killing action of their light upon the

body. But in view of the fact that Finsen uses the light of fifty to eighty-ampere strength, concentrated through lenses in order to secure bactericidal action, one would be likely to have some doubts of the killing power of our eight-ampere arc lights. As a matter of fact, experiments have shown us that not much can be said of the annihilation of skin bacteria by irradiation with arc and incandescent lights, because, contrary to the opinion of Löwenthals,⁴ neither in the beginning nor at the close of one of these light baths have the drops of perspiration been proven free from germs.

If, however, one's object is to induce perspiration, this is attained quicker and with more intensity with the incandescent light than with the arc light. In that case the blue arc light might be also employed with advantage for its reputed quieting effect upon the nerves.

Finally, the idea that the arc light, on account of its similarity in physical composition to sunlight, can be therapeutically employed as a substitute, must be looked upon as impracticable. I agree entirely with Rieder that we cannot approximate a sunbath in a cabinet.

Our hot air cabinets are about 1.50 m. high, slanted from the seat toward the top and back. They are made of wood, which is covered on the inside with zinc plate. As in the light bath, there is an opening at the top for the head and neck. The cabinets are heated with steam at a pressure of about one and one-half atmospheres, conducted in pipes running in numerous coils along the side walls, and this warms the air inside very quickly. In some of the cabinets provision is made by which the steam, instead of running in the heating pipes, may be conducted through several small pipes into a reservoir extending along three sides, whereby steam is generated, so that the same cabinet may be used either for hot air baths or steam baths.

With reference to the placing of the thermometer, the heating of the floor, and the small trap door in front for ob-

servations, the conditions are the same as in the light baths. As for the hot air cabinets hitherto in use, only by overcoming many difficulties can they be made serviceable for scientific and medical purposes.

ABSTRACTION OF PERSPIRATION.

Probably all observers agree that the electric light bath possesses two undeniable advantages over other sweat baths; in it perspiration breaks out quicker and at a lower temperature than in the other baths. When we find frequently in many reports the unqualified statement that in the light bath perspiration is induced at a temperature of thirty-four degrees C., it cannot be otherwise than that under certain conditions perspiration can make its appearance even at such a low temperature. When one considers what influences outside of the patient himself affect the outbreak of perspiration — as, for example, the same patient without changing his clothing or manner of life perspires much sooner on a warm than on a cool day — one must admit that all such figures depend really upon circumstances. But it is established, as already stated, that in by far the preponderating majority of cases a lower temperature and a shorter time suffices to bring on perspiration in the incandescent light bath than in the hot air bath. In the white arc light bath I have even seen perspiration break out within five minutes after the light was turned on at thirty-four degrees C., and other observers have seen it at twenty-seven degrees. These cases are indeed unusual, as was the one observed by me where, on a very hot day, perspiration broke out in an arc light bath at a temperature of thirty-five and eight-tenths degrees C., whereas, as a rule, the perspiration temperature with the arc light is not under fifty degrees C.

We measure the outbreak of perspiration from its first visible appearance upon the breast, not from its appearance in the armpits, nor upon the forehead, which latter, for the

purpose in hand and on account of the more comfortable feeling, we cover with a cold compress and give the face frequent cool wiping. Obviously the forehead and armpits, being predilection places for perspiration, are no standard for the establishment of a general perspiration outbreak.

If, as is generally customary in all statistical compilations, we leave out of account all peculiar conditions and unusual circumstances and compute an average from numerous observations the result shows:

| | White incandescent light. | Red incandescent light. | Blue arc light. | Hot air. |
|-----------------------|---------------------------|-------------------------|------------------|----------|
| Top temperature (C.), | 41.2 | 47.8 | 52.2 | 59.35 |
| Minutes of time, | 6 $\frac{3}{4}$ | 7 | 15 $\frac{1}{2}$ | 13 |

At the same time I might also give the extremes, that is, the lowest and highest temperature and the shortest and longest time at which the outbreak of perspiration occurred. These are:

| | White incandescent light. | Red incandescent light. | Blue arc light. | Hot air. |
|---------------|---------------------------|-------------------------|-----------------|-----------|
| Degrees (C.), | 34 and 52 | 36 and 60 | 35.75 and 71 | 46 and 72 |
| Minutes, | 4 and 12 | 3 and 15 | 10 and 22 | 6 and 22 |

We see here how wide are the variations and that the greatest are with the blue arc light and the hot air bath.

Since in practice we have to calculate on the most widely varying external circumstances, these specifications are probably not without some practical value. Yet it is found with great constancy that in inducing perspiration the incandescent light bath stands first. And there is scarcely any other explanation to be given this phenomenon than that the radiant heat of the incandescent lamps, with its reflection from the walls, exerts a powerfully exciting influence upon the nerves of the sweat glands.

This stimulation of radiant heat is felt intensely by every patient. His eyes may be blindfolded and yet he will say with almost complete certainty: "Now the white light is burning;

now the red light; now the arc light." Sensitive persons even feel the radiation of the incandescent light as pricking or burning of the skin; while I am unable to perceive any of the exciting conditions as they are produced from various sides, so long as they are kept within the usual limits.

In view of this experience it is a question whether Goldscheider's⁵ proposition still holds true, that "Heat stimulation in itself does not call out sweat secretion, but this appears rather as the result only of continued heating." One difference between the action of light heat radiation and conducted heat as it is furnished in the hot air bath must in every case, according to our experience, be taken for granted. And on that account it is necessary to point out that we should not look upon heat stimulation as a single idea, because one influence is exerted in light heat radiation and another in conducted heat.

Because in the incandescent light bath perspiration is induced in shorter time and at a lower temperature, these baths have this advantage, that by occasionally holding the temperature down to the point of the outbreak of perspiration, which can be done by shutting off some of the lamps, the patient can be kept in perspiration longer than in other sweat baths, whose higher point of perspiration outbreak will not allow a longer continuation on account of the unfavorable influence of the heat upon the heart. (Landois.)

The amount of perspiration is considerably influenced by individual differences, manner of life, duration of the bath and the temperature. In any case the sweat-inducing action of the arc light falls below that of hot air, and especially that of the incandescent light bath, with which a loss of weight from 300 to 500 grammes in twenty-five minutes is not unusual. Bokemeyer⁶ has even been able to demonstrate a loss of one kilogram of weight in twelve minutes — certainly an enormous accomplishment for the incandescent light.

THE PULSE AND RESPIRATION.

With the pulse, as with the outbreak of temperature, there will be wide variations. As a rule the pulse increases considerably in the electric light bath, although it not infrequently happens that first, until about the time of the sweat outbreak, the pulse is not more frequent, but remains quiet and only increases after long sweating and long continuance in the cabinet. The longer the bath lasts and the higher the temperature at the beginning and the close, so much the greater, generally, is the excitation of the pulse.

Even if one is unwilling to concede an exceptional place among other sweat baths to the incandescent light bath, on account, chiefly, of the specific action of light, he would expect it to bring about an acceleration of the pulse, because increased temperature generally does this. (Landois.)

With a continuation of the incandescent light bath for twenty minutes I have seen, almost without exception, an increase of the pulse to over one hundred strokes. Reider, Strasser, and others no longer admit any particular sparing of the heart in the light bath. Nevertheless, the relative frequency of the pulse is not so considerable in the incandescent light bath as in the hot air bath, or even in the steam bath, so that if the heat is not too excessive, nor continued too long, neither distress nor fainting are usually to be expected. However, the expectation expressed by Klemperer⁷ can scarcely be fulfilled, namely, that in case the declarations of Below and Munter, with regard to the sparing of the heart in the incandescent light bath should be confirmed, this treatment ought to be suitable for severe disturbance of compensation. In any case I would urgently warn against putting a man with compensation disturbance or other arteriosclerotic troubles into the light cabinet without using the utmost precaution. If one ventures to allow such a patient to take a light bath it is advisable that the first sitting should be short, with only a part of the lamps turned on. With the light bath,

as with most things, habituation plays a large part. After a while the patient may be able to endure for a long time temperatures which at first he could not bear even a minute.

In contrast to the incandescent light, one sees with the arc light baths for the most part only a small increase in the frequency of the pulse. Moreover, because in this bath the patient does not fall into perspiration until very late and the temperature of the cabinet is only slowly increased, such a bath of twenty-five minutes — of which on the average the patient perspires only ten — does not have such an influence upon the heart as a bath of the same duration in the incandescent or hot air cabinet, in which perspiration breaks out sooner and therefore continues longer. At least it is conceivable that the quieting influence of blue light, which, according to numerous experiments on men and animals, may be looked upon as established, opposes in a measure the heart-exciting action of the heat, since Bokemeyer has indeed found that in the blue incandescent light bath the increase of the pulse keeps within narrower limits. The average of a large number of series of observations may here best illustrate this point. The pulse on the average amounted to

| | White incan- descent light. | Red incan- descent light. | Arc light. | Hot air. |
|--------------------|--------------------------------|------------------------------|------------|----------|
| At the beginning, | 90 | 83 | 87 | 79 |
| At the end, | 116 | 126 | 98 | 111 |
| Minutes' duration, | 21 | 24 | 25 | 23½ |
| End temperature, | 54° | 67° | 61.1° | 66° |

This shows the smallest increase of the pulse with the influence of the blue arc light, and next with the white incandescent light. Because, however, the blue arc light bath is relatively slow and produces less perspiration, and since, as a rule, in ordering a sweat bath a more or less energetic abstraction is aimed at, the incandescent light bath therefore — preferably the white — appears by far more suitable, in spite of its relatively stronger influence upon the heart.

All there is to be said with reference to the respiration is

that the frequency at the end of the electric light and hot air baths is increased, but only a very little, and that the increase in volume is to be attributed chiefly to deeper breathing. (Salomon.³)

BLOOD PRESSURE.

Measurement of the blood pressure is taken in all cases with the Gärtner Tonometer, which generally operates satisfactorily. Only the delicate gum sheath of the finger ring needs frequent repairing, because the perspiration, although frequently wiped off, attacks the gum and causes it to crack. In any case there is a whole series of small defects which can only be avoided by long practice. One ought always to take the measurement twice, and if these vary by more than ten mm. a third should be taken. If two differ by more than ten mm. a third must be taken, and it better be upon the same finger.

As a rule there is diminished blood pressure as a consequence of artificial sweat baths in incandescent light and hot air cabinets. Rieder¹ indeed emphasizes that, as with other sweat processes, so with the electric light bath, there is moderate increase of the blood pressure, in spite of the declarations of Winternitz, Sommerfeld, Kluge, Ekgren, and others, who found decrease of blood pressure with hot applications aimed at producing sweat baths. It is probable, however, that Rieder's added paradigm may lead to harmony of views in the discussion. Rieder's patient in question had been in the incandescent light bath only twenty minutes and had been in perspiration only ten minutes, reckoned from the appearance of sweat upon the breast. Now, in my investigations I have repeatedly noted that in the beginning of the process the blood pressure is not essentially changed; many times it increases before it falls. Only after the quitting time — we leave our patients in the cabinet twenty-five minutes on the average — and after vigorous sweating is a sinking of the

blood pressure observed, in conjunction with a more or less considerable increase in the frequency of the pulse, denoting weakening of the heart. For this reason it is easy to determine from the measurement of the blood pressure how long the patient has sweated and to what temperature he has been exposed, since both, in my opinion, have great influence upon the variations of the blood pressure. Great heat affects the heart badly, as already noted, and expands the blood vessels of the skin. If the measure of blood pressure after digitalis is the expression of the heart energy on the one side and of the resistance of the arteries on the other, so the weakening of the first and the reduction of the second must indicate a sinking of the blood pressure. In any case, with the incandescent light and hot air baths of twenty to twenty-five minutes' duration, in most cases in half of this time we are able to induce perspiration with only, in a very few exceptions, sinking of the blood pressure; while there are cases where, in spite of energetic perspiration, in spite of the influence of a high temperature, and in spite of visible expansion of the blood vessels of the skin, blood pressure does not sink, but increases, as I have been able to observe on a strong young medical man for example, as well as with others.

Even in the blood pressure measurements the arc light baths show a difference from the incandescent light baths, in that with the former an increase of pressure is oftener to be seen than a decrease. The same explanation that I have given for the smaller increase in the pulse beat — slow, only moderate sweating and slow increase of temperature — may be also applicable here, provided one does not accept a hitherto unproven specific action of the chemical rays.

SUPPRESSION OF THE BODY TEMPERATURE.

A rise of body temperature in consequence of the application of heat only takes place when the temperature of the surrounding air has reached a height in which heat radiation

cannot well take place from the blood streaming through the expanded vessels of the skin. A temperature under fifty-five to sixty degrees C. does not generally increase the body temperature; above that point the body heat increases in spite of the sweating, but only in proportion to the height and duration.

However, these rises of temperature in the usual sweat bath, in the cabinets named, keep within low bounds. With healthy persons one very seldom sees temperatures of thirty-eight to thirty-eight and one-tenth C. in the mouth, whereas the steam cabinet baths naturally raise the degree of heat much quicker and more energetically.

In conclusion I may also add that the majority of patients take to the incandescent light bath with a great deal of pleasure. In the first place it is clean and handsomely furnished, and secondly, in spite of the high temperature, there is in fact a very agreeable sensation, there being only a relatively few patients who feel the heat rays as something pricking and irritating. Although the imagination may play some role, it is a fact that very many patients are favorably influenced even mentally by a light bath. Because it offers, furthermore, some incontestable objective advantages over similar baths, the employment of electrical incandescent light baths in hospitals and sanitariums appears to be indicated and well grounded.

The Psychiatric Association of Berlin has recently drawn up a scheme of reform in the treatment of inebriates and declares that special institutions are necessary for the isolation of victims of the drink habit. These may be open like general hospitals or closed after the manner of insane asylums, and only institutions adopting the principle of total abstinence should be permitted. The admission of inebriates into these institutions may be voluntary, at the request of the party concerned, or compulsory, under such safeguards as are required in the case of admission to insane asylums. At the head of these special institutions should be physicians possessing special knowledge of mental and nervous diseases.

THE RELATION OF ALCOHOLISM TO TUBERCULOSIS.

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Alcoholism and tuberculosis stand foremost amongst the conditions hampering human progress and limiting man's happiness. Through them the evolution of the race has long been impeded, and, unfortunately, in spite of numerous restraining and restricting efforts, their baneful influence is still accountable for a high degree of mortality, and an immense amount of sickness and suffering.

The stay of such calamitous states has long afforded problems which have appealed to all sorts and conditions of men, and their solution is yet to a great extent unaccomplished, and surrounded by difficulties.

With two such morbid influences barring human advance, it was but natural that eager minds studying the one should have been compelled to recognize the presence and action of the other. Hence questions as to the association and true relationship of alcoholism to tuberculosis are of old standing. But, since the answers have lacked in uniformity, it is particularly desirable that at least some approximation to the truth should be arrived at.

The position has been well expressed by Payne, who says: "With regard to the influence of alcohol on the production of tubercle, the utmost divergence and indeed contradictory opposition of opinion prevails. Huss found tuberculous phthisis to be rare in drunkards; and that has been the general con-

clusion drawn from post mortem observations. It has even been thought that drinking freely checks the progress of phthisis, but of this I can find little evidence. On the other hand, the more general impression is that alcoholism is a frequent cause of consumption." And Dr. Payne goes on to say: "On this disputed point we must appeal to the methodized experience of those who have special opportunities of observation."

This subject, however, is one full of peculiar and unavoidable difficulties. And not the least arises from the prejudices which, however repugnant to scientific research, have only too frequently warped the minds of those who attempted an investigation of the matter. Effort to elucidate the question by an appeal to what has been termed clinical statistics is necessarily permeated with fallacy.

Purely experimental research, although in many ways valuable and suggestive, nevertheless, in the presence of modifying influences, concerning which we have but little knowledge and but limited control, is apt to lead to unreliable conclusions. Mortality returns, although rendering material for interesting and it may be useful analysis, afford data too gross for anything but rough generalizations. A study by the pathological examination of a large number of cases would seem to afford the most hopeful method of investigation, and when combined with discriminating clinical observations is likely to accomplish as near an approach to the truth as we are able to obtain under present circumstances. But before indicating the manner and results of such a method of inquiry it will be well to refer briefly to the opinions which various authorities, based on exceptional experience or special inquiry, have formed on the relationship of alcoholism to tuberculosis, particularly in this country. Three views are possible, and each has had its advocates — (1) That alcoholism is antagonistic to tuberculosis; (2) that alcoholism bears no special relationship to tuberculosis; (3) that alcoholism definitely predisposes to tuberculosis.

1. *Alcoholism antagonistic to tuberculosis.* Before the true nature of tuberculosis became apparent, the opinion was somewhat widely held that the subjects of alcoholic excess seldom suffered from consumption or other forms of tuberculosis, and some went so far as to claim that the alcoholic state was antagonistic to tuberculosis. This impression still exists amongst a large section of the public, and probably in some measure is a survival of the opinion expressed by many of the earlier writers on pulmonary tuberculosis. Indeed, in some medical quarters such a view is still not altogether discarded.

The idea that alcoholism was in some cases a preventive of tuberculosis may perhaps in part account for the advocacy of its persistent and even excessive use in phthisis. Certainly the use of alcohol in cases of pulmonary tuberculosis has long been a vexed question, and even yet there is much confusion as to purpose and great variation in practice.

Walshe apparently favored the moderate use of alcohol in phthisis. Bennet also, writing some thirty years since, said: "Of late years, in America, alcohol, especially whisky, has been much lauded as a remedy in consumption;" but added: "I have seen a certain number of cases in which it had been long taken, but I cannot say with benefit. The daily ingestion of large quantities of nerve-stimulating, carbon-producing spirit certainly does not come under my ideas of hygienic treatment." Flint used alcohol freely, that is, from six ounces to a pint of spirit daily, and appears to have considered it beneficial, "but not in the sense of exerting a special influence upon the disease." Charteris, writing in 1877 concerning the administration of whisky to phthisical patients, says: "In private practice I order it to be taken *ad libitum*." Hermann Weber in 1885 was convinced of the great usefulness of alcohol in the treatment of phthisis. Thomas Harris some few years since tried the effects of whisky containing fifty-three per cent. of alcohol, during a period of nine months.

Twenty-six cases were so treated, the doses commencing with two drams of pure whisky, gradually increased up to one and one-half ounce of whisky every four hours day and night. Dr. Ransome, who saw many of the cases, expresses the opinion that "at certain times of the day the dose of alcohol was unnecessarily large, . . . for some of the patients at times were distinctly flushed, and slept heavily even in the daytime." Dr. Harris states: "No case left the hospital in a worse state than that in which he entered it. As regards the physical signs, very little difference could be detected between those at the date of admission and the date of the discharge of the individual." Manifestly in no instance did "cure" occur.

Reference has frequently been made to Stokes' account of a gentleman who recovered from pulmonary tuberculosis after regularly drinking "seven tumblers of punch every night"; but it is sometimes forgotten that at the same time he was to a great extent living an outdoor life, duck shooting every day that he could go out, and, according to his own account, "had to stand up to my hips in the Shannon for four and five hours of a winter's day, following the birds."

It is interesting to note that Bell of New York, as far back as 1859, opposed the view generally current, for he then stated: "The opinion so largely prevailing as to the effects of the use of alcoholic liquors, namely, that they have a marked influence in preventing the deposition of tubercle, is destitute of any solid foundation. On the contrary, their use appears rather to predispose to tuberculous deposition. When tubercle already exists, alcohol has no obvious effect in modifying the usual course it takes. Neither does it mitigate, in any considerable degree, the morbid effects of tubercle upon the system in any stage of the disease."

The abolition of alcohol from many modern sanatoria seems to indicate that, as Dr. Ransome well expresses it, "owing to the terrible consequences of excess, and to the

proclivity of mankind to its excessive employment, it (alcohol) can only be recommended in selected cases, with many cautions."

2. *Alcoholism unrelated to tuberculosis.* Many hold that alcoholism bears no special relationship to tuberculosis; that it neither prevents nor predisposes to infection. This view seems to have been generally held by the older writers on tuberculosis.

In going over the literature of phthisis published prior to the discovery of the tubercle bacillus, one cannot but be surprised at the very few references to alcoholism as a factor of etiological importance. Even when mentioned, it is generally in such terms as indicates that it is not considered as particularly influential.

Ancell, writing in 1852, expressed his opinion that "a careful consideration of all the facts brought forward by the best informed pathologists . . . leads to the conclusion that tuberculosis and the formation of tubercle is not one of the effects of alcohol, either in the human frame or in the lower animals." A similar opinion was expressed by Cotton in 1858 in his Fothergillian Essay, where he says: "It is worthy of remark that the habitual drunkard — he who is always in his cups — is not very often the subject of phthisis; such at least is the result of my own observations." Many still contend that alcoholism can only be considered as related to tuberculosis in so far as it leads to a lowering of general vitality, and places the individual under conditions particularly favorable to infection.

3. *Alcoholism as a predisposer to tuberculosis.* The view that alcoholism definitely predisposes to tuberculosis has of recent years received much support. The tendency of modern opinion is to recognize in alcohol an agent which renders the tissue specially prone to tuberculous infection. This is well exemplified by several recent expressions.

Hector Mackenzie believes that "alcoholism must be re-

garded as a powerful predisposing cause of tuberculosis. It is almost invariable to find tubercle present in the lungs in patients dying in the course of alcoholic paralysis. Tubercle of the peritoneum of pleura frequently complicates cirrhosis of the liver. Alcohol in excess undermines the strongest constitution and renders the body less resistant to disease of all kinds. This is especially true when the individual leads a sedentary town life. Considerable amounts of alcohol may be taken without obvious deterioration of health by persons who lead an out-of-door life and eat heartily." "Alcoholic subjects appear to be specially liable to acute miliary tuberculosis." One of the most recent and definite pronouncements is that of Prof. Thomas Oliver, who says: "Nor is there any truth in the opinion held by the laity, that the use of alcohol protects the individual against tuberculous disease. I do not refer to such a restrictive employment of alcohol as a glass of beer or stout, or a little wine at dinner time. That may be helpful to the individual. It is to the mistaken opinion that where there is a family predisposition to the disease it is necessary to be somewhat more indulgent. In my experience of young men with a hereditary tendency to phthisis, alcohol has, by the late hours which it encourages, and the careless and irregular habits that it fosters, frequently precipitated the individual into active tuberculous disease, which abstinence and more careful living would have assuredly prevented. It indirectly favors the development of tuberculous disease. Pulmonary tuberculosis was found by Dickinson to be more frequent in drinkers than in ordinary people in the proportion of three to one. Rolleston, quoting H. Mackenzie, states that in sixty-seven cases of pulmonary tuberculosis occurring in drinkers, a family history of tubercle was only found in ten, whereas it is found in about thirty per cent. of the ordinary cases. The frequent association of pulmonary tuberculosis with alcoholic peripheral neuritis, and its presence, too, in nearly one-third of the cases of cirrhosis of the

liver, are circumstances which show that under the debilitating influence of alcohol resistance is reduced, ordinary pulmonary catarrhs are not so quickly thrown off, and thus the bacillus of tubercle gains an easier entrance."

Some have held that there is a tendency to phthisis in alcoholics to assume the fibroid form, but this is not in accordance with the best modern experience.

Poore and Allchin, in a recent article, speak of "the association of tuberculous phthisis with alcoholic cirrhosis of the liver as well established, the course of the disease being usually one of rapid caseation and excavation with broncho-pneumonia, and rarely towards fibrosis."

It is of interest to note that many years since the late Sir Benjamin W. Richardson recognized the special proclivity of alcoholics to phthisis, and even went so far as to describe a special form of alcoholic phthisis.

The close association of tuberculosis and alcoholism has now been widely recognized, not only by British physicians, but also particularly by American and French observers, who appear to recognize more fully than has hitherto been the case in this country that there are very important sociological and economical as well as medical aspects of the question. Osler, voicing America experience, is very definite: "It was formerly thought that alcohol was in some way antagonistic to tuberculous disease, but the observations of late years indicate clearly that the reverse is the case, and that chronic drinkers are much more liable to both acute and pulmonary tuberculosis. It is probably altogether a question of altered tissue soil, the alcohol lowering the vitality and enabling the bacilli more readily to develop and grow." Maurice Letulle has recently drawn attention to the frequent occurrence of pulmonary tuberculosis in the alcoholic workmen of Paris. He believes that chronic alcoholism prepares the way for the development of phthisis, that it aggravates the tuberculous condition when established, increases the gravity of the prog-

nosis, and enfeebles the therapeutic action of hygienic and dietetic measures. These considerations he would have brought before the notice of the public. A campaign against tuberculosis he holds should be associated with anti-alcoholic efforts; and to this end the establishment of popular "anti-alcoholic restaurants" is advocated.

Thorain also insists on the importance of adopting measures for repressing the progress of alcoholism as among the important prophylactic procedures for the stay of tuberculosis. Robin also shows that alcoholism is capable of creating a soil for tuberculosis. De Lavarenne has recently discussed the association of alcoholism and tuberculosis; and now we have Prof. Brouardel's testimony that alcoholism is a potent factor in propagating tuberculosis.

The evidence of Ruata respecting Italy is interesting: "Alcoholism in central and lower Italy is almost unknown, while it is tolerably widely spread in Piedmont, Lombardy, and Venice. In Milan, the most industrial town in Italy, possessing a large number of manufactories, alcoholism is widely spread, and the mortality from tuberculosis resembles that of England."

Various suggestions have been made to explain the special liability of alcoholics to tuberculosis. There can be no doubt but that the nonhygienic surroundings of many chronic alcoholics afford very important conditions to tuberculous invasion. The vitiated atmosphere of the public house, the uncleanly habits of many of the frequenters, the overcrowding and promiscuous congregation of individuals in varying states of health and disease, furnish circumstances peculiarly suited to the spread of tuberculosis. But most important of all, the filthy and dangerous condition of many bars and beer houses, from the reckless deposit of sputum on the floors, where, quickly becoming dry, it mixes with the dust which is continually being raised by the moving crowd, furnishes a fruitful source of infection. Moreover, it must be remem-

bered that many of the habitual frequenters of these places are often in an advanced stage of phthisis.

Having had exceptional opportunities of studying large numbers of cases amongst workhouse and hospital patients, I am convinced that the public house must be considered as one of the most serious obstacles to the speedy stamping out of tuberculosis in this country. It is very necessary that sanitary authorities should recognize this most important aspect of the tuberculosis question. It should also be remembered that statistics have clearly demonstrated the liability of brewers and publicans to phthisis. Dr. John Tatham's valuable returns on the mortality from tuberculous phthisis in England and Wales during the last forty years strikingly illustrate the heavy death rate in inn and hotel servants. But in addition to the danger of sinking into habits of excessive alcoholic indulgence, workers in public houses are also subjected to the prejudicial influence of long hours in ill-ventilated apartments, necessary association with uncleanly and it may be tuberculous individuals, noise, excitement, anxiety, and the depressing influences of an environment where evidences of human misery and degradation are only too apparent.

The sluggish, loafing, or sedentary habits of the chronic alcoholic, and the unfortunate circumstance that practically all drinking in this country is carried on indoors, must not be lost sight of. The movement to establish outdoor cafés may well be supported on hygienic grounds.

But the chronic alcoholic is probably always the subject of more or less nutritional impairment. Frequently there is a very conspicuous lowering of vitality, and in not a few instances states of pulmonary congestion and even hemorrhage exist which undoubtedly furnish a suitable soil for the development of the tubercle bacillus. Perhaps sufficient attention has not been given to the occurrence of states of auto-intoxication which undoubtedly prevail in many alcoholics.

It is also well to remember that the chronic alcoholic, as the result of his habits, is frequently driven to engage in particularly unhealthy occupations, and his reckless indulgence commonly leads him to rest content with an overcrowded, dirty, dark, and ill-ventilated dwelling, induces him to grow accustomed to an insufficiency of suitable food, and subjects him to the devitalizing influence of depressing emotions.

It is of interest in this connection to note that, as regards the association of tuberculosis and malignant disease, an analysis of Manchester cases indicates that the subjects of cancer do not show any special tendency to contract tuberculosis, and that malignant disease has little or no influence in reviving latent tuberculous processes. But it is contended by some that, besides a general impairment of vitality and pernicious environment, there is a special prejudicial influence arising from the action of the alcohol and its associates.

This is a contention peculiarly difficult of proof. The evidence at present available is perhaps inconclusive. There are, however, certain experimental facts which go to show that alcohol has a marked influence in altering or determining an alteration of the cells of animals subjected to the action of certain pathogenic organisms. Prof. Sims Woodhead has shown from observations on animals that alcohol predisposes them to specific infectious disease. Prof. Abbott of Pennsylvania, and also Dr. Delearde working in the Institut Pasteur at Lille, have recently shown that alcoholized animals are more readily infected by many organisms than nonalcoholized animals; and other investigators have also shown that alcohol produces a marked negative chemiotaxis. It has also been shown by Laiteneu that animals brought into a state of chronic alcoholism are much less readily rendered experimentally immune to microbial infection. Attempts have also been made to show that alcohol, through its influence on nervous structures, renders the tissue, and especially the lungs, prone to invasion by tubercle.

In order to compare the views and opinions above indicated with our Manchester experience, I have analyzed the results of pathological observation of a large number of hospital cases. A reference to pathological data probably affords the most reliable basis for the formation of sound views as to the relationship of alcoholism and tuberculosis.

Alcoholic neuritis and phthisis. Some time since I collected a number of fatal cases of peripheral neuritis occurring in chronic alcoholics. Eight cases were subjected to pathological examination during a period of three years. They formed one and six-tenths per cent. of all the medical cases examined during that period. Pulmonary tuberculosis was met with in seven. This gives a percentage of over eighty-seven. All the cases were females. In only one subject were there distinct tuberculous lesions elsewhere than in the lungs, and there the intestines were also affected. In one subject there was an old tuberculous focus at the apex of the lung, but it seemed probable that the active phthisis arose from a fresh infection rather than from this latent patch. In five cases both lungs were more or less involved. In two the left was the only one showing any distinct tuberculous lesion. In three of the cases the course had been rapid. In four it seems to have lasted for several months. One subject, it was stated, had "spat blood" six months before her death. In one case one lung only was studded with small tubercles, the infection evidently having been recent. In two there was more or less extensive caseation. Four presented evidences of softening and cavitation, and in two of these there was some fibrosis.

Since analyzing the above I have gone over my more recent pathological notes. Two further cases of alcoholic multiple neuritis have come to autopsy. In one, a male, æt. 35, the subject also of hepatic cirrhosis, both lungs were studded with recent tubercles. There was no softening, but caseous foci at the apices were apparently of older formation

than the tubercles elsewhere. In the other case, a female, æt. 32, in whom there was also a fatty and cirrhotic liver, the lungs, although congested, œdematous, and presenting patches of broncho-pneumonia, showed no distinct evidences of tubercle. Thus out of ten fatal cases of alcoholic neuritis, nine females and one male, eight, or eighty per cent., were the subject of pulmonary tuberculosis.

In 1895 I expressed the belief that "it is desirable to treat cases of alcoholic paralysis in special hospitals, in country houses, or in healthy private houses, rather than in the almost unavoidably tubercle-contaminated wards of a general hospital"; and further experience has but strengthened this opinion. As far as it is possible, outdoor treatment should be provided for all alcoholics, and it is most desirable that retreats for inebriates should in many respects, and particularly as regards opportunities for outdoor life, closely resemble the sanatoria for tuberculous cases.

In connection with the recent remarkable outbreak of arsenical neuritis in Manchester and district, and occurring in the most serious forms in alcoholics among the poorer classes, it is interesting to note that in a considerable number of the fatal cases active pulmonary tuberculosis was present, and in some undoubtedly much hastened the end.

Tuberculosis is also of frequent occurrence in the subjects of alcoholic cirrhosis of the liver. In order to throw light on this matter, the records of 3,053 medical cases examined in the Pathological Department of the Manchester Royal Infirmary have been analyzed. One hundred and twenty-one examples of common cirrhosis of the liver were collected, and all doubtful and complicated cases omitted. Cases associated with cardiac or such chronic affections as seemed to have led to secondary changes in the liver were also excluded. All examples of "biliary" cirrhosis, and those in any way connected with syphilis, were passed over. After omitting several doubtful cases, in twenty-eight tuberculosis, either

active, latent, or obsolete, was present. Thus over twenty-three per cent. presented evidences of tuberculosis. Active phthisis was present in fourteen, twelve males and two females; and active peritoneal tuberculosis in twelve, nine males and three females. Of these, six males and one female had involvement of both lungs and peritoneum. In five males and one female the lungs were affected, and in two males and two females the peritoneum alone. No less than twelve, or nearly ten per cent., of the 121 cases appeared to die directly from tuberculosis. The average age of those in which active tuberculosis was limited to the peritoneum was nearly 47 years. The average age of those in which active tuberculosis was limited to the lungs was just over 44 years. I have also been much struck with the frequency with which so-called tuberculous peritonitis is met with clinically in the subjects of hepatic cirrhosis. In many cases it is manifestly of the nature of a terminal infection, and the post mortem characters of many of our cases have shown such to be the case.

I have recently communicated with all the retreats and reformatories for inebriates mentioned in the report of the government inspector, with a view of obtaining data as to the frequency of pulmonary tuberculosis in such class of alcoholics. Unfortunately, however, scientific records are apparently not generally available in such institutions. Of course the persons admitted are, as a rule, carefully selected, and presumably submitted to medical examination, and it may doubtless be taken that those presenting evidences of tuberculosis would be excluded. It is therefore particularly desirable that all such institutions should make returns as to the number of cases developing phthisis during their retention.

It is also to be hoped that those life assurance societies who have so-called temperance sections will in future afford data respecting the prevalence of phthisis amongst the non-abstainers as compared with the abstainers, as such is likely

to be of much interest and undoubted value in indicating the relative liability to tuberculous infection of the two classes.

Without going into a consideration of points connected with the morbid anatomy of the question, it may be admitted that tuberculous processes as met with in alcoholics do not present any special or exceptional features. As in other states, there is very considerable variety in the exact character of the lesions. In many cases there is a rapid extension of tubercles, and the destructive process in the lungs often runs a rapid course. The pathological characters of the lungs in many of the cases I have examined have much resembled those met with in cases of diabetics dying with phthisis.

In many cases, however, the onset is insidious and the progress accompanied by comparatively insignificant clinical manifestations; and hence the importance of very carefully examining all alcoholics suspected of being tuberculous. At present the material for a statistical expression of the frequency of the association of tuberculosis and alcoholism is lamentably meager; but such evidence as is forthcoming appears to furnish strong ground for the belief that measures aiming at the extermination of tuberculosis should also include means for the suppression of alcoholism.

The following from the *Voice* is both true and significant: It seems beyond question that there is in operation a concerted plan for the purpose of discrediting and repealing the temperance educational laws now in force in all the states of the Union. Two forces are evidently concerned in the movement: First and chief, the organized liquor interests, which recognize the temperance and educational laws as perilous to the liquor business; second, the feelings of a small body of respectable "moderate drinkers" who consider themselves insulted when their children are taught to look with disapproval upon the habits of their fathers and mothers. The motive in the one case is greed, in the other is a sense of injured dignity.

ALCOHOL AS A FACTOR IN THE CAUSATION
OF DISEASE.

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The pathological changes produced in the tissues by the action of alcohol is a subject of scientific interest which may be discussed entirely apart from the arguments that deal with the social use of alcohol as a beverage. These changes may possibly be quoted in opposition to such usage, but to the pathologist they present themselves primarily as facts of observation which have to be recognized and classified.

Introduced into the alimentary canal, alcohol is rapidly absorbed, and is carried, by means of the circulating blood, to the various parts of the body, where it comes into contact with the several tissue elements. The promptness with which it is absorbed and diffused means that it reaches the tissues practically unchanged, and these are therefore exposed in the first place to the action of alcohol in an essentially unaltered condition. At a later stage the alcohol becomes oxidized, and this process when it commences proceeds with considerable activity. Each of these facts has its own special influence in determining the variety of tissue changes that are to be placed to the debit of alcohol as an agent competent to produce pathological disturbances in the bodily structure and functions.

The effects of alcohol on the protoplasm of the tissues may be conveniently studied in the cells of the central nervous system. Here it can be demonstrated that early and definite changes occur, both in the body of the cell and in its dendritic

processes. The fine, delicate filaments of the latter become obtuse and nodulated. In the cell mass itself the Nissl bodies gradually lose their prominence and disappear, the cell substance becomes swollen, the nucleus indistinct, and the nucleolus abnormally large and conspicuous. These changes are not peculiar to the action of alcohol. Practically identical alterations are caused by the waste products which accumulate in the lymph spaces as a result of cell activity. And the same is true of the influence of various toxins, such as those which are produced in diphtheria, tetanus, etc. It is thus a matter of actual demonstration that alcohol exerts a prompt and definite toxic influence on nerve cells, and presumably, therefore, also on the other functionally active cells of the body.

A second result of the continued action of alcohol is seen in connective tissue. Various poisons, it is known, when circulating in the blood, produce changes in the cells lining the capillaries. Alcohol, in addition, appears to stimulate endothelial cells around the small blood vessels, with the result that these cells undergo proliferation. The new cells are of the hyaline mononuclear type; subsequently they become elongated and appear to form a periplast, and in this way new fibrous tissue is produced. This explains the so-called cirrhoses which mark the course of chronic alcoholism, and as alcohol when absorbed from the alimentary canal is conveyed by the portal vein directly to the liver it is easy to understand why this organ is so frequently and in so marked a degree the site of cirrhotic change. Similar effects may be frequently detected in other organs and are common in the blood vessels. There is, indeed, good reason to believe that alcohol may, by itself and apart from other influences, be responsible for a widespread arteriosclerosis.

A third and very common expression of the action of alcohol is found in the form of fatty changes in the tissue cells. This is often detected as a granular condition in the

nerve cells of the cerebral cortex in chronic drunkards. Fatty degeneration of the cardiac muscle is also a frequent and decided event. But it is more especially in the liver that fatty changes attain their most prominent degree. There are two different methods by which alcohol may bring this about: (1) As already stated, alcohol at first reaches and acts on the tissues unchanged. Later it undergoes chemical metamorphosis, and the early products so formed have an intense chemical affinity for oxygen. They therefore utilize the oxygen of the hæmoglobin. Now, the hepatic cells contain as one of their normal constituents a certain proportion of fat, the fate of which in healthy metabolism is to undergo a gradual process of oxidation. But as the products of the decomposition of alcohol capture more or less of the oxygen of the blood there will be an insufficient supply to conduct the normal process of fat oxidation in the liver. Hence there results an accumulation of fat globules in the hepatic cells. An argument in support of this view is obtained from a study of the conditions in which fatty degenerations occur in the heart. One of these, as already mentioned, is chronic alcoholism. Another is leucocythæmia. In the latter, the great deficiency of red corpuscles necessarily means a defective supply of oxygen to the tissues, and restricted oxidation processes. In these circumstances fat accumulates in the cardiac muscular fibers. It is reasonable to suggest that alcohol, being an agent disposed to annex the hæmoglobin oxygen, may also lead to fatty change by diminishing the opportunity for tissue oxidation. (2) A further result follows, viz., the breaking down of the proteid of the hepatic cells into fat, the cells themselves becoming shrunken. This always happens when alcohol has been taken in large quantities, and it may be an early occurrence when the cells have previously been weakened by the operation of some prejudicial influence. It is a change of a most serious nature, for when once developed it almost invariably means that the cells

affected will never regain either their functional value or their histological integrity. Both in the liver, and to a less marked extent in the heart, it is common to find the influence of alcohol displayed in the shape both of fatty infiltration or degeneration of the parenchyma of the organ, and of cirrhotic changes in the supporting connective tissue. As it is in part excreted by the kidney, alcohol may here also produce cloudy swelling or more conspicuous fatty degeneration of the epithelium lining the uriniferous tubules, and in time also fibrosis of the inter-tubular fibrous tissue.

There is one effect of alcohol on the superficial blood vessels which is of possible therapeutic importance, more particularly in the treatment of bronchitis. In this disease, especially in the acute form, the blood vessels immediately below the basement membrane on which the epithelium lining the bronchial tubes is supported are abnormally dilated. Now, the action of alcohol is to aggravate this dilatation, and it is thus reasonable to consider whether it is wise, as a matter of practical therapeutics, to administer an agent possessing the capacity to exaggerate a condition which is one of the existing features of the disease. There are yet other aspects of the influence of alcohol bearing upon the discussion of its position as a therapeutic agent. This is illustrated, for example, by the effects produced on the function of the heart, even apart from appreciable organic changes. One of the most important of these is that ventricular systole is rendered incomplete. In health the contraction of the cardiac muscle insures at each systole the practical obliteration of the ventricular cavity. The ventricle is thus completely emptied of blood, and a firm muscular mass is contracted under the aortic (or pulmonary) valves, lending mechanical support to these under the strain of the superincumbent column of blood. But under the influence of alcohol ventricular systole is not quite complete. The ventricle is not entirely closed. A certain mass of blood remains, and thus increases

the diastolic pressure. Further, the imperfect systole means that the muscular wall of the ventricle is not brought into a position where it can render effective support to the semilunar valves. Hence, under repeated strain, these may yield to an extent sufficient to permit some measure of regurgitation. The regurgitant stream falling upon the ventricular wall during diastole takes the muscular tissue at a disadvantage, and dilatation of the cavity of the ventricle is an inevitable sequence. All this, it is to be noted, is independent of any structural alteration in the cardiac muscle; but when, as sooner or later is certain to occur, fatty degeneration of the muscle develops, the conditions which favor dilatation are greatly increased. Another effect of alcohol which bears upon its therapeutic use is the modification which it produces in leucocytic activity, leading possibly to diminution of the resisting power of the tissues to disease-producing agencies. It is certain that resistance to some of these agencies depends on the multiplication, and on the regular order and sequence, of certain forms of leucocytes. Under the influence of particular toxic forces numerous polymorphonuclear cells make their appearance, to be succeeded in a few days by mononuclear cells. The former have for their function the apprehension and inclusion of toxic agents, the cells and their included products being in time absorbed by their mononuclear successors. Anything which disturbs the activity or time relations of these processes may seriously weaken the sum of bodily resistance, and it is probable that this is the explanation of the fact that in certain animals alcohol renders the tissues more susceptible and yielding to such diseases as hydrophobia, anthrax, erysipelas, and pneumonia. All these are considerations which must be borne in mind in an endeavor to fix the therapeutic value of alcohol. Whatever advantages it may have, as, for example, by dilating peripheral arterioles and lowering arterial tension, it must be remembered that along with these there are certain risks and penal-

ties. And it becomes a question whether these not unimportant qualifications do not, in many instances, more than outweigh any benefits which may legitimately be placed to its therapeutic credit.

The lecture was illustrated by numerous lantern slides showing the pathological changes in various organs resulting from the action of alcohol.

Recently, in Russia, Knery and Sinani made a number of interesting attempts to treat alcoholism by hypnosis, with favorable results, and they believe such treatment superior to medication. Sinani treated sixty-two patients at a dispensary, giving them suggestion every day, resulting in the complete recovery of sixteen, who did not relapse to drink in from one-half to ten years. Bechterew has employed hypnotism in the treatment of chronic alcoholism for ten years, but in spite of the good results he does not consider suggestion alone sufficient for a permanent cure, as alcoholism is not a disease of the will power alone, but often depends upon organic changes. For this reason he combines hypnosis with hydrotherapy, bromides, codeine, heart tonics, strychnine, etc. Abramowitz is enthusiastic over this treatment, having nine complete cures out of the sixteen patients treated. He believes the combination with drugs gives no better results than hypnosis alone. Wiasemsky thinks this treatment the best for alcoholism. He has found that these patients are easily hypnotized, and also that there is a difference between those who wish to be cured and those who were urged by relatives and friends to undergo the treatment. There never was a bad effect from the withdrawal of stimulants, the tremor and general weakness disappearing quickly under suggestion. The observation of the cured cases extends over a period of ten years.

IS THERE HOPE FOR THE DRUG FIEND?

BY DAVID PAULSON, M.D., CHICAGO, ILL.

A properly equipped sanitarium, operated upon rational principles, is best prepared to undertake the cure of the typical drug habit victim. Yet, in view of the alarming increase of this class of patients, it is evident that a large number will either have to be cured at home or else abandon all prospect of securing the longed-for deliverance from this slavery.

The average drug fiend soon develops definite traces of moral depravity. One of the most characteristic of these is an invariable tendency toward falsehood and a peculiar deceitfulness, which frequently enables him to continue the use of the drug when his friends do not in the least suspect it. One of my patients for several days successfully eluded the vigilant eye of his trained attendant, and succeeded in supplying himself with morphine tablets which he had secreted in the cap of his fountain pen. This shows how utterly useless it is to attempt to cure such a patient unless he is placed under the constant supervision of some responsible person who acts under proper medical direction.

The tapering off method appears at first sight to be the most feasible plan. This consists in slowly reducing the dose until finally the patient, without his knowledge of the fact, is given nothing but pure water at each hypodermic injection; but in actual practice this process generally proves to be a delusion and a snare to the patient, for when he experiences the first trifling physical ailment or mental depression, he as readily again tapers back into the old habit. It

assists materially in the permanency of the cure for the patient to be able to recognize some decisive moment when he secured the victory from this slavery.

Another popular idea consists in substituting some less harmful drug for the particular one to which the patient is addicted. The majority of the widely advertised "cures" are based upon this principle. As a rule, they are unsatisfactory, for the patient soon discovers that he is leaning on a broken reed which does not afford his wrecked nervous system the support which it craves, and when the desire for more unearned felicity than the substituted drug can furnish becomes almost irresistible, the patient again resorts to his favorite drug.

It is not enough to merely cure the drug habit, the patient himself must be cured; he must receive such a physical uplift as will enable him from henceforth to camp above the drug line. As long as he maintains himself upon this plane, by the diligent cultivation of moral and physical health, so long he remains cured.

When the patient's irritated nerves are properly quieted by sedative physiological measures, the drug may be completely withdrawn at once, and in the majority of cases it is not necessary to administer even a second dose; in fact, incredible as it may seem, a number of these patients do not even call for a single dose of the drug after beginning a proper line of treatment. It is absolutely essential that other enslaving agents should be abandoned at the same time. If the patient persists in the use of alcohol, tobacco, or even is sufficiently wedded to tea or coffee so as to be miserable when deprived of them, it will be only a question of time when these agents will serve as connecting links in a chain of circumstances which will eventually lead back again to the old life; for the temporary stimulation which they afford will sooner or later fail to satisfy him, and nothing but morphine or cocaine or some other drug will then answer the purpose.

Dr. Haig, the eminent English medical authority upon this subject, speaks as follows: "No doubt all stimulation is wrong, and we thus merely enjoy today by mortgaging tomorrow, and just as we may rise today a few inches above our normal level, so shall we fall tomorrow exactly the same amount below it."

Often an individual is afflicted with the liquor, tobacco, and drug habits at the same time. It is as great a folly to advise such a victim to abandon these habits on the installment plan as it would be to suggest to a man with several fingers in the fire to withdraw only one at a time.

One of the most soothing measures that can be employed in these cases is a neutral bath, the temperature of which should be precisely that of the skin, or about ninety-four to ninety-six degrees. The patient may remain in such a bath from one-half to several hours. The sedative effect of this upon the system is so marvelous that the patient invariably feels refreshed and soothed, and often secures some refreshing snatches of sleep. Patients who have sustained severe external burns frequently live for a number of weeks constantly in such a bath without experiencing any unpleasant effects. The mistake is likely to be made in allowing it to become too warm, in which case it is both weakening and debilitating. The application of hot fomentations quickly relieves to a large degree the distressing pains which are apt to develop upon the withdrawal of the drug. Firm rubbing will often accomplish the same result. Properly applied galvanic electricity is also a very useful agent in these cases.

The diet should be extremely simple, consisting of egg toast, gluten gruel, buttermilk, fruit, and fruit juices. The patient should be inspired with the thought that he has a right to expect divine assistance while he resolutely determines to give up these life-destroying habits.

It is highly essential for the permanency of the cure that the patient should have indelibly stamped upon his memory

that there is no royal road out of the morphine habit; that it is utterly impossible to trifle for years with nature and not expect her to inflict some penalty.

When the case is managed in harmony with the principles outlined in this article, the patient ordinarily passes the crisis of his ordeal within thirty-six to forty-eight hours, and after that time experiences but little discomfort.

After the patient has been cured of his drug habit his health must be gradually restored, and to accomplish this it will be necessary for him to adopt a natural and wholesome dietary, and to undertake some systematic course of physical development. He should daily utilize such tonic hydiatic measures as a cool sponge bath, or cold mitten friction, or brief cold baths, gradually lowering the temperature as his ability to react increases. Such an individual must exchange his sedentary life for one that includes a considerable amount of vigorous outdoor activity. He must learn to look to divine sources to impart to him permanently that calmness of spirit which he was wont to secure temporarily from the delusive effects of the drug.

It is scarcely necessary to state that when the drug victims are treated in accordance with these principles they remain cured, unless they allow themselves to again fall into physical decay by adopting various health-destroying habits.

DIPSOMANIA.

BY LUCIUS W. BAKER, M.D.,

Superintendent of Riverview Sanitarium for Nervous Invalids, Baldwinville, Mass.

Not long since I had under my care a young gentleman, 26 years of age, belonging to a refined, intelligent family. His father was a moderate drinker, and died in middle life of Bright's disease, bequeathing to his child an unstable, nervous organism, which predisposed its unfortunate owner to some form of mental or nervous disaster. The earlier history of the patient is one of alcoholic excess, later occurring periodically, when the desire for stimulants would be irresistible. He would pawn his clothes or do anything to satisfy the craze for intoxication.

During these periods, if denied alcohol, there would be complete loss of appetite and inability to sleep; his eyes would become bloodshot; his gait staggering; his conversation would be voluble, silly, and incoherent, and delusions would often be present. In short, he would at times present all the phenomena of intoxication without having, to my certain knowledge, partaken of a single drop of alcohol.

The symptoms presented by this patient are clearly indicative of a profound disturbance of the nervous system, which manifests itself by an intense periodical craving for intoxication. They are similar in their origin to those morbid impulses to commit theft, set fire to buildings, etc., which are occasionally met with, and like these are due either to a loss of controlling power in the higher cerebral centers, or to an

excessive morbid accumulation of nervous energy which exceeds the normal controlling power of the individual.

The distinguishing characteristic of these disorders is a morbid and irresistible desire to perform certain acts without the presence of any positive delusions; while varying in their manifestations, they are generally periodical in their occurrence, and are dependent upon an unstable condition of the brain cells, which may be acquired but is generally inherited.

Especially is this the case in that intense periodical craze for intoxication known as dipsomania, which Dr. Spitzka has defined as "a form of periodical insanity manifesting itself in a blind craving for stimulant and narcotic beverages." In nearly every case of dipsomania careful study will detect some impairment of brain or nerve tissue, some imperfection of cerebral element, which in the majority of instances antedates the desire for alcohol.

During the intervals between the drink paroxysms the dipsomaniac has usually no desire for alcohol; indeed it may be actually repulsive to him. He may then sign the pledge and make the most strenuous efforts to reform; but during the attack all his powers of control, all his manhood and self-respect, are overwhelmed by the craving of the nerve centers for intoxication. Nothing but absolute physical restraint will prevent excessive indulgence. For the time being the man's whole moral tone is changed, and he will often seek the society of the low and degraded, with whom he would never dream of associating under any other circumstances.

These changes of character, these overpowering impulses for intoxication, with intervals of total abstinence, are symptomatic of an intense disturbance of brain function, and characteristic of dipsomania.

The dipsomaniac is the victim of a distinct neurosis, which is very closely allied to insanity. He should not be confounded with the confirmed inebriate in whom the desire for alcohol is nearly always present. The latter often indulges to

excess, and may become intoxicated, but he does not present the characteristics of dipsomania.

It is true that a genuine cast of dipsomania is seldom met with in contrast with the number of confirmed inebriates, but it is none the less important that the characters of the disease should be promptly recognized and intelligently treated. During a paroxysm of dipsomania the individual is really insane and irresponsible for his acts, as much so as a case of acute mania. To regard him as a moral delinquent and subject him to moral means alone for his relief is unscientific, and reminds one of the time when insanity was regarded as an indwelling evil spirit, to be driven out by chains and the lash.

We may as well expect the suicidal maniac to observe a promise not to take his own life as to expect a man to voluntarily refrain from the use of alcohol during an attack of dipsomania. Both are diseased, both need restraint and intelligent medical aid.

The first step to be taken in dealing with the dipsomaniac is a recognition of his diseased condition. When this is acknowledged, dipsomania passes from the domain of morality which it has held so long, and becomes a proper subject for the consideration of the physician. The dipsomaniac, unable to resist the terrible drink craving, will then no longer be regarded as a moral delinquent, but as a sick man needing special medical care. This, as a rule, can be best obtained in institutions devoted more especially to this class of cases, and in charge of physicians who have made special study of the various forms of inebriety.

ALCOHOL IN FEVER.

BY C. KNOX BOND, M.R.C.S., L.R.C.P., ENGLAND.

The change of view adopted by the medical profession in this country as to the efficacy of alcohol administration in the treatment of disease is undoubtedly the outcome, in large measure, of the strenuous efforts made in the direction of temperance reform generally during the past forty years.

In this extent professions have followed, instead of having led, public opinion. Example has not been altogether wanting. Medical opinion has been influenced as to the evils of this method of treatment by members of the profession whose position and attainments entitled them to speak with authority. Administration of alcohol in disease in public institutions has markedly decreased. Such decrease has been coincident in time, and strongly influenced by the growth of the general temperance movement. In the controversy over the value of alcohol as a remedy we should eliminate those diseases or groups of diseases in which alcohol has been demonstrated to be useless as an adjunct to the treatment. Amongst these my own experience leads me unhesitatingly to place fevers. This experience I will refer to in some detail. I use the word "fevers" in this relation to include the specific febrile diseases, and with more particular reference to those diseases which come under treatment in the fever hospitals in this country, viz., smallpox, enteric, typhus, scarlet fever, and diphtheria.

In the same group as these occur also such diseases as whooping cough, measles, mumps, and varicella, which are

so largely diseases of childhood that for the present purpose they may be dealt with under this head, alcohol being contra-indicated, not only by the febrile nature of the ailment, but also by the tender age of the patients.

Of the hospital group of cases, my chief experience has been in the City Hospital South, Liverpool, during three years' tenure of the appointment of resident medical officer. I there became convinced of the possibility of successfully dealing with fever under nonalcoholic regimen. This hospital afforded a very valuable opportunity in the broad standard of comparison with the City Hospital North. The two institutions were almost identical in management and administration. Both were under the control of the city council; in staff and general equipment there was no appreciable difference, and the class of cases admitted were identical.

In each the same methods of treatment, with the notable exception of alcohol administration, were in vogue. The only distinction in treatment was that, while at the City Hospital North alcohol was freely given in routine of treatment, at the City Hospital South its administration was reduced to the lowest limits. The striking uniformity between the two hospitals was an invaluable check on what may be looked on in the nature of an experiment. And during this three years period each annual statistical report of the two hospitals bore witness to the fact that the nonalcoholic method compared favorably with the alcoholic.

It came equally favorable through a later and further test, the results shown under the change in this respect during the immediately subsequent years, when alcohol came to be freely used. It may be said generally that alcohol was given at the City Hospital South to a limited number of patients, that it was reserved for the severe cases, and that its effects were carefully watched and clinical results noted, special attention being given to the pulse, skin, delirium, and temperature.

I propose to refer first to typhus fever, for the reason that

there is no disease of its class in which the claim of efficacy of stimulation by alcohol has been more persistently advocated. Murchison, while admitting that "there is abundant evidence that typhus can be treated successfully with little or no alcohol," at the same time says: "I am no advocate for the plan of treating typhus without alcohol," — a somewhat inconsequential deduction. He sums up, at length the evidence as strongly against alcohol, and yet feared to relinquish its use, stating "that many cases are benefited by its occasional use as a stimulant." In Liverpool, the last haunt of typhus in England, the disease has invariably been treated with alcohol as a matter of routine.

My series of typhus cases were 177 in number, of whom forty-three died, a mortality of 24.29 per cent. Alcohol was given to all these fatal cases except six, *i. e.*, in thirty-seven cases, and, in addition, to twenty-seven cases which recovered, sixty-four cases in all. One hundred and thirteen patients, therefore, received no alcohol. Analysis of the notes of these alcohol-treated cases, which were constantly under my observation, fails to indicate any resulting benefit. The pulse was not slowed where rapid, nor was its tone improved. The tongue remained dry and brown under its use. Delirium continued unabated. Insomnia was unrelieved, and general symptoms in severe cases of ultimate recovery were controlled only by a falling of the temperature in crisis. Of the effects of alcohol in seventeen among the fatal cases there is nothing to note, except that it was given in routine practice to dying patients, patients in whom hope of recovery was precluded from various causes, such as advanced age. There still remain, however, twenty cases (fatal) where, if alcohol were of any remedial value, it was given with reasonable hope of success. Its failure even to mitigate symptoms was complete. Of recovery cases, alcohol was given to twenty-seven, but only ten of these were so severe as to cause anxiety for the result. Here again no benefit was noted.

Alcohol was usually given in the form of whisky, from four to ten ounces in the twenty-four hours. On the harmful side, increased stupor and delirium were noted in certain cases under its use. Any reference to the possibly hurtful effects of alcohol is, however, rendered superfluous by the striking presentment of its failure as a remedy. It was this failure that led me to doubt its value in fevers generally, and added experience led me to abandon its use in the treatment of these diseases.

A series of cases of enteric fever, treated in the same hospital, and within the same period, were submitted to the same clinical scrutiny of the results of alcoholic stimulation. The cases, 380 in number, were admitted during a period of three years, and I would especially call attention to the following points: The small number of patients who received alcohol at all, viz., 71 in 380, 309 having been treated without alcohol; that of the fatal cases as large a proportion as 18 in 33, or 54 per cent., were treated with alcohol; and, lastly, the total percentage mortality, 8.68 for the series of 380 cases, which, judged by the average of hospital-treated cases in this country, is decidedly low.

With regard to the total of seventy-one cases to whom alcohol was administered, twelve were cases in which wine was given during convalescence, only in amount from two to six ounces, for various reasons. These twenty-three cases had no clinical significance and need not be further referred to.

Forty-eight cases remain for consideration, eighteen amongst fatal cases, thirty amongst recovery cases. To deal first with the thirty recovery cases which were given alcohol, it may be said that they were of various degrees of severity from "moderately severe" to "very severe"; certain of the graver complications developed amongst them; a considerable proportion presented the "typhoid state." They afforded, therefore, excellent opportunities for clinical estimate of the effect of alcohol. Careful analysis of the notes of these cases

fail to reveal any benefit directly attributable to the action of alcohol, chiefly in the form of brandy (two ounces to six ounces in twenty-four hours), in any of these various phases of the disease. Fourteen cases in which special attention was directed to the pulse showed no slowing or improvement in tone. I have always found that the action of alcohol, whether in health or disease, is to accelerate the pulse rate. Slowing, if it come at all, is only induced through fatigue of the overdriven cardiac muscle subsequent to and consequent on its stimulation, a condition to be avoided in typhoid fever. Nothing at all indicative of control of the temperature range in the direction of antipyrexia was ever noted. That this is ever thus obtainable in typhoid in doses short of the directly poisonous is probably a popular delusion; nor was duration of fever ever shortened either in primary attack or in relapse. Notable was one case, in which "direct ill effect" of the remedy was noted to be abated by its discontinuance and adoption of other measures.

Case E. L., female, age 10, very severe attack, in which the "typhoid state" developed and lung consolidation occurred. Brandy, two ounces every twenty-four hours, given on sixth day after admission, commencement of fourth week of illness. For thirty hours, under the influence of brandy, became worse, with slight general increase of symptoms; noisy, sleepless, restless; tongue dry, caked even to tip and edges; skin dry and hot. Brandy discontinued; bath given at 102 degrees Fahr., twelve minutes' duration, with much immediate relief. No return of severe symptoms; made good recovery. The pulse, 140, increased under brandy to 170; falling again to 140 after the bath. The case is illustrative of a result of giving alcohol to children suffering from enteric fever, which in my experience may be somewhat confidently looked for—increased vascular and mental excitement, with consequent disturbance of rest, the supreme indication for treatment in this disease. And it can be fairly urged from

any ground on which the question may be approached that, to whatever extent usage and the matured tissues of the adult typhoid patient may protect him from the administration of this "remedy," no such safeguarding conditions exist in the case of children, to whom, whether in health or disease, alcohol is a direct and potent poison.

There remain for consideration the eighteen fatal cases in which alcohol was administered. In seven cases it was given in routine treatment to dying patients, cases hopeless from the time they came under observation. In one other case it was given during the last six days of fatal collapse, the primary attack having been treated without alcohol, this being the only case of death in relapse occurring among these cases. Remaining ten (fatal) cases, and alcohol-treated, showed clinically no amendment in any respect from brandy. In three of them intestinal hemorrhage occurred, which leads me to refer to the observation of Sir William Jenner, one which cannot be too strongly insisted upon in practice, that the occurrence of this complication contra-indicates alcohol. Of scarlet fever I have treated some 2,000 cases. I have never seen a case in which, in my opinion, alcohol was necessary; no case in which its administration was beneficial; but, on the other hand, I have seen more than one case in which its action was admittedly and directly injurious. In this disease, so largely one of childhood, the age factor renders the use of alcohol inadmissible, even apart from the fertile nature of the illness. In smallpox and diphtheria my experience has been equally emphatic in negating the assumption that alcohol is a necessary or advisable factor in treatment.

The opportunity of observing the effects of alcohol as a remedial agent in the treatment of fevers afforded by this experience led me inevitably to the conclusion that it possessed no real value. Alcohol in no case averts a fatal issue where such is impending; it exercises no favorable control over the symptomatology, and in a possibly small, yet quite apprecia-

ble, number of cases its effects are directly injurious. The abuse of alcohol has killed many; its use has never saved a single life which was threatened by fever. Physiologically, a fever patient is of necessity a bad subject for alcoholic stimulation.

In the treatment of enteric fever, rest, as absolute as can be obtained, is necessary. Muscular movement is prohibited. Alcohol given in this quiescent state finds its most favorable opportunity for mischief. When, in addition, we consider the low diet, reduced probably to milk and beef tea, or their equivalents, in association with the digestive inability to assimilate even the nutritive material that this diet contains, it must be admitted that caution should be observed in administering alcohol under such conditions.

A man in health cannot benefit by taking eight ounces of brandy daily. If, however, he contracted typhus or typhoid fever he would probably be ordered this amount of stimulant as part of the treatment. Ill effects in health would be, to some extent, counteracted by exercise and a meat diet. In fever these safeguards would be withdrawn.

That intemperate persons require alcohol in fever is an exploded fallacy. Historically, the facts are dead against alcohol. In hospitals there has been an increase of 300 per cent. in the use of milk, a decline of 47 per cent. in the use of alcohol. Progress in treatment of disease has gone hand in hand with the disuse of alcohol. In fever, where bath treatment is successfully adopted, alcohol falls into disuse. From surgical wards asepsis has evicted alcoholic stimulation. The use of alcohol formerly was the outcome of ignorance, a confession of weakness and defeat; today it is the expression of inability to discard the fetters of an outworn routine. The range of disease in which alcohol was considered necessary has contracted to narrow limits, and it would be impossible to make too close scrutiny of its value in its present restricted field. The bearing on this question of the adoption of the

germ theory of disease opens up a large and important new field for observation. I have in this paper endeavored to indicate that in the specific febrile diseases, concerning which bacteriology has entirely revolutionized professional thought, alcohol has no remedial value and should be eliminated from their treatment. — *The Medical Times and Hospital Gazette.*

At the last meeting of the Society for the Study of Inebriety in England, the recognition of the necessity for a judicious "after care" of inebriates was urged. At present the facilities for exercising an efficient management of inebriates are woefully inadequate in this country. The so-called "homes" or "retreats" need to be converted into special inebriate hospitals where the supervision may be effectual, treatment conducted on scientific lines, and a high level of discipline maintained. The "private homes" are open to many objections, and we strongly object to the conduct of all such places unless under strict medical inspection. But the discouraging returns of many of these institutions is dependent not altogether on defects in the management of these cases, but because the restored inebriate is in most instances sent back to the old alcoholic environment, and with feeble powers of resistance readily falls a victim to realcoholization. The exercise of a tactful and scientifically directed "after care" might accomplish much for the unhappy sufferers from the "drink craving." — *Medical Press, England.*

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Abstracts and Reviews.

MORTALITY FROM INEBRIETY IN ENGLAND.

Mr. J. M. Brown, in the *New Voice*, gives the following interesting study of statistics of mortality from alcohol in England:

Education is not in the ordinary course of things a preventive of inebriety. In his supplement (Part II) to the English Registrar-General's Fifty-fifth Annual Report, Dr. John Tatham gives a big series of comparative tables showing the causes of death of occupied males between 25 and 65 years of age. Nearly one hundred different professions are described. The average number of deaths from alcoholism for the whole is thirteen per 1,000. The educated classes—the brain workers—are in a greater measure the victims of alcoholism than are the ordinary workers. The following nine professions may be selected as the best educated section of society, and inebriety is more general amongst them than in the whole community:

DEATHS PER 1,000 FROM ALCOHOLISM.

| | |
|---|----|
| Musicians, | 29 |
| Commercial travelers, | 23 |
| Law clerks, | 22 |
| Chemists, | 18 |
| Physicians, | 14 |
| Lawyers and counselors, | 12 |
| Schoolmasters, | 8 |
| Artists, sculptors, and architects, | 11 |
| Clergymen, | 2 |

Five of these classes are above the average and four below it; the average for the whole is fifteen instead of thirteen, the

musicians includes all classes of professional players, and the amount of the evil is greatly enhanced by the inclusion of street musicians — the men who hang about saloons. Commenting upon the musical profession, the work quoted says:

Compared with the standard, musicians die more than twice as rapidly from alcoholism, and very much more rapidly from diseases of the nervous, circulatory, digestive, and urinary systems, and their mortality figures from suicide is twenty-three as against an average of fourteen for occupied males. It is clear, therefore, that many of those who are engaged in this profession are sadly addicted to intemperance (p. 25).

Commercial travelers come next to musicians for drunkenness, largely due, no doubt, to the Bohemian kind of life they lead. Dr. Tatham says of them:

Commercial travelers succumb in undue proportion to alcoholism and to diseases of the liver, their mortality figures from these diseases being twenty-three and forty-seven respectively, as against averages for occupied males of thirteen and twenty-seven (p. 26).

Lawyers and counselors are just under the average, while law clerks, who have to hang idly about the courts a good deal, are much above it. Artists, sculptors, and architects are also under the average. Schoolmasters, too, are under the average, and in respect of alcoholism are on the same level as grocers, tanners, carpenters, joiners, stone and slate quarriers, brick and tile workers.

The reason for the excessive alcoholism among the educated classes is doubtless partly due to the fact that their time is not so fully occupied as that of the wage-earners. The figures given refer only to the occupied classes, but many of those enumerated, while qualified to follow a profession, are practically unoccupied. The register-general finds "the mortality attributed to alcoholism is about double as heavy among the unoccupied as it is among the occupied class."

Liquor sellers and their servants form the most drunken classes. In the words of Dr. Tatham: "Publicans die from all causes more than twice as fast as do occupied males generally. From alcoholism they die seven times as fast" (p. 39).

This is not surprising when their surroundings are taken into consideration. In London hotel servants die at the rate of 139 per 1,000 from alcoholism, and publicans at the rate of 124 per 1,000. Out of each group of sixteen hotel keepers who die in London, one succumbs to drunkenness; elsewhere, one out of twenty-four. The register-general states that the number of deaths from alcoholism is even greater among hotel keepers than the figures indicate. The proportion of deaths from liver complaints is quite as large amongst publicans as amongst their servants, and he thinks the proportion of deaths from alcoholism is also quite as great, but as the liquor seller is in a better social position than his servant the physician often withholds the real cause of death from the certificate.

It would be deeply interesting to compare the deaths registered from alcoholism in England with those of the United States. The figures for this country are not available in the complete and inclusive form given by the English registrar-general. In some of the larger cities alcoholism is probably as rife here as it is in England, but according to the 1890 census the proportion of deaths registered from intemperance here is only 3.16 per 1,000, as against 13 per 1,000 in Great Britain. The census returns for the past four decades give the death rates per 100,000 from inebriety as follows:

| | | | | | | | | | |
|------|---|---|---|-----|------|---|---|---|-----|
| 1890 | . | . | . | 303 | 1880 | . | . | . | 210 |
| 1870 | . | . | . | 286 | 1860 | . | . | . | 382 |

The figures for 1890 show a great improvement upon 1860, but an alarming increase when compared with 1880. This, however, may be due to more complete methods of registration than to an actual increase in alcoholism. It is to be hoped that this is really the reason. The new census returns will probably throw some light on the subject.

EYE STRAIN A CAUSE OF INEBRIETY.

Recently some authorities have pointed out the fact that surgical operations correcting some deformity have been followed by a cessation of the drink craze. The following letter from a noted New York surgeon in answer to an inquiry on this subject is given as of much interest:

DEAR DR. CROTHERS:

Answering your query about drug habit cases relieved by surgical operation, I would say that no accurate notes have been kept in reference to this feature of my cases. It is my experience that a good many neurotic manifestations are dependent upon peripheral irritations, and that brilliant results often follow a removal of the source of peripheral irritation before neurotic habits have become established. The last sentence should be in italics perhaps. I can recall several instances in which patients had developed a drug habit on account of the irritation due to a loose kidney, a tender scar of the cervix uteri, or adhesions of the uterine adnexa, and in some cases the craving for the drug disappeared immediately after an operation had been performed and did not reappear while the patients were under observation.

Morphine and alcohol are the only two drugs that I have known patients to drop after an operation, but this occurs often enough so that we ought to examine all drug habitues for sources of peripheral irritation. A certain percentage of the patients are curable, and no matter how large or how small this percentage it ought to be eliminated from the number of patients at our institutions.

The remarkable results of operations upon insane patients are in large part due to the immediate effect of the operation *per se*, and the same is no doubt true in regard to drug habits, but aside from this we have in our asylums curable patients who are never examined properly, and who remain with the "chronics" necessarily. My rule in operating for patients

with grave neuroses or with drug habits is to operate not for the purpose of curing the neurotic manifestations, but for the purpose of doing work which ought to be done always, regardless of the neurotic features. This relieves one from feeling that he may be doing unnecessary operating on any fanciful theory, and it gives one the satisfaction of occasionally seeing more than the ordinary results from operative work.

Yours truly,

ROBERT T. MORRIS.

THE FREQUENCY OF TUBERCULOSIS AMONG ALCOHOLICS.

Felix Imbault draws attention to the importance of the relations between alcoholism and tuberculosis, especially since the recent revival of a vigorous campaign against these two potent causes of disease and social degeneration. According to Landouzy, alcoholism "makes the bed for tuberculosis." It is with a view to get precise conclusions on this point that the present research was carried out, namely, as regards the frequency of tuberculosis among alcoholics. In 1864 Leudt, in a paper presented to the Medical Congress at Lyons, stated that among 121 adult drunkards who had died from various kinds of alcoholic intemperance twenty were found to be tuberculous. He concluded that pulmonary phthisis was less frequent among habitual drunkards than amongst the habitually sober. Imbert, from a total of 318 male alcoholics examined at the Laennec Hospital, made a special study of 131 and found that fifteen of these, or eleven per cent., were affected with tuberculosis. From a similar special study of sixty-eight females he found six cases of pulmonary tuberculosis, and one of tuberculous peritonitis, or ten per cent. It should be added that Imbert did not search specially or systematically for tuberculosis among these patients. Paul Raymond (1896) made observations at the Hotel Dieu in Paris. Among sixty-two drunkards of excessively

intemperate habits and incapable of working he found fourteen cases of pulmonary tuberculosis. These cases were apparently free from a phthisical heredity, and comprised thirty-eight males and twenty-four females. Imbault, from a series of inquiries addressed to medical practitioners in the country and small towns, obtained trustworthy accounts of 248 alcoholics as regards the causes of death; of these, forty-four died of pulmonary tuberculosis, two of tuberculous meningitis, one of general tuberculosis, and one of diabetes and tuberculosis, thus showing forty-nine deaths from tuberculosis, or nineteen and seven-tenths per cent., a proportion that he thinks is apparently very high. Tarbarray, in a recent *These de Paris*, from a careful statistical study of the geographical distribution of tuberculosis in France, came to the conclusion that it prevailed most in the districts where most alcohol was consumed, the correspondence being very close in the majority of the departments. In some, however, no parallelism could be traced. It appeared that in Brittany, where phthisis is very prevalent and is on the increase, other factors (hygienic and social) co-operate with alcoholism. From observations collected by Destree and Gallemaertz from the Annual Official Statistics of Italy, and from those of Bertillon for Paris, it appears that "the professions or occupations in which alcoholism is common have in general a high mortality from tuberculosis." This is partly due to alcoholism, but other etiological factors are also present. Among forty-five phthisical patients studied, Imbault found eight to be of temperate habits, the daily consumption of wine not exceeding one and one-half litres per head. The rest were heavy drinkers, but of these seven had ceased to drink heavily after the appearance of phthisical symptoms. All were male adults. The descendants of alcoholic parents show an excessive mortality, in which tuberculosis and meningitis play a most important part, as shown by the observations of Legrain, Grenier, and others, and confirmed by the author. — *British Medical Journal*.

THE PERVERTS. By William Lee Howard, M.D. G. W. Dillingham Co., publishers, New York city. 1902.

This is a remarkable combination of psychological statements and reasonings on many and varied subjects. We shall quote from this freely in the next issue. The following account of himself by the hero of the book gives a good idea of the psychology and other suggestive topics which the author has presented in the form of a story. This book is a contribution to the borderland studies in psychiatry. The hero, a dipsomaniac, talks as follows:

"Why should I have these fearful, horrible outbreaks of nervous depression, ending in attacks of dipsomania? They will land me in the madhouse, prison, or grave; according to circumstances.

"'Use your will power'? Only the most ignorant could give such useless advice. Do you tell the epileptic to use will power, Doctor? I surmise you have many a time left the trembling, disheartened dipsomaniac with the advice not to drink any more. Just what he was trying to do, Doctor, but he thought you would help him carry out his fervent desires and also your advice. No, Doctor, the study of these cases is beyond you. They are too tedious, burdensomely intricate, and psychologically massive for you to understand. The time will arrive when scientists must recognize the nervous instability of certain individuals which takes the form of dipsomania, and be able to distinguish drunkenness, vice, and immoral habits from a nerve explosion which has wrecked numerous homes and destroyed many brilliant minds.

"I am a victim of another's, or others', folly and ignorance. I am going to trace my condition, and, if possible, replace the material needed to make me a physiologically normal individual. Let me first put down what I know of my father.

"He was the youngest son by a second wife. His ancestors were of a hardy race and sturdy stock. They had been

staunch supporters of kings, and courtiers to queens. When my father was a baby in swaddling clothes he had strong brothers, full-grown, contentedly tilling the soil. He was the living result of the fitful, dying embers of approaching senility, fanned by the eager desires of middle-aged nubility. He received a university education, and possessed all the mental qualifications of the scholar, but lacked that physical force and endurance of nervous energy necessary for long-continued mental application. He went to America, where his ability as a lawyer and astuteness as a financier soon brought him wealth. At 45 years of age he married a maidenly school teacher of 36 years of age. The outcome of the union of this senile man — not senile in years, but in tissues and organs — with a partly dried-up New England school teacher is an interesting quartette consisting of three daughters and one son — myself. These offsprings are apparently the last of the family — a family once rich in its strong men and womanly women. These precipitates have inherited the exhausted nervous organism of their immediate progenitors and all the instability, infirmness, swaying and distorted characteristics belonging to a decaying family. Such are the physiologic facts I have to face. My sisters will have to go down under the force of an hereditary undertow, which ever, unrealized by them, drags them deeper and deeper into the surf of extinction.

“ It is one of the characteristics of our morbid inheritance to be obsessed by such profound egotism that no advice will be heeded by my sisters, and especially any from me, their young brother. It will be my struggle, my duty, to attempt a rejuvenescence of the family, and to do that I must first adjust my organism to the proper conditions for living and for producing that which can live.

“ My father was 53 years old when I was born, so I only recall my parents as elderly people. In fact, I never remember my father except as a feeble old man.

"My mother was the youngest daughter by a third wife. She has elder half-brothers, who were intellectual professional men. They also inherited the dregs of an exhausted vitality. None of them married. Only one of them lived to see me grow up. He died insane two years ago. I now recall his answer when I asked him why he had not married. He said: 'That his father's family had used up all the reserve nervous strength they originally possessed, so he had none to transfer to another generation. A strong woman might give to his children the needed stability, but as she would impart to them also most of her other qualities, he would not willingly burden any future generation with such incubi.' I surmise he was more of a cynic than a physiologist.

"My three sisters — two elder, one younger, than myself — all show the increasing neurotic tendencies directly in proportion to the ages of our parents. Zora, the elder, is an amiable, affectionate, plastic woman. She shows no intellectual force, no moral perversion, no mental activity, no marked individuality. She is a negative quantity. The next elder sister, Marcia, is an egotistic, grasping, typical hysteric, whose uncontrollable impulses have been fostered on account of the objective symptoms of her hereditary psychopathic soil. This unfortunate woman is so desirous of mating that she is continually on the man hunt, and a hint from me to mother that she ought not to marry has called down on me maledictions and curses; hence I know very little of her present history. The most unfortunate of the family is Mizpra, as her condition appears to be a constant perversion of all the normal womanly attributes.

"My state is aggravated as attempts at studious application are continued. These nerve storms must be conquered if possible. I shall watch with scientific interest the gradual growth of my sisters' unfortunate inheritance. With me the last of the Newcombers goes out of existence."

ALCOHOLISM; A Study of Heredity. By C. Archdall Reid, M.B.C.M., F.R.S.E., of London, England. William Wood & Company, publishers, New York city. 1902.

This work is literally a discussion of the theories of evolution and the author's notions of heredity. He believes acquired characters are not transmissible, but inborn characters are. From this statement he decides that the inebriate drinks because he is so constituted that experience of alcohol rouses up a craving for this drug. Whether drinking or not, there is transmitted to the next generation this inborn constitution of mind. He believes inebriety to be one of the zymotic diseases in its effects as a powerful cause of elimination. He argues that every race is resistant to every deadly disease in proportion to its past experience; then reasons that the races that have used alcohol for the longest periods are far less liable to high death rates, due to the use of alcohol. On the other hand, the race in which the habit has only been recent shows a very high death rate from this cause. He believes that every scheme of temperance reform which depends upon the diminution or extension of the supply of alcohol literally promotes drunkenness. He also urges that temperance reform is impossible from a biological standpoint. The great remedy he urges is forbidding the procreation of children by inebriates. In his opinion all inebriety arises from three distinct reasons: To satisfy thirst; to gratify taste; and to produce a direct effect on the brain. The latter is the cause of all inebriety. The reader is surprised at the assertiveness of the author, to whom all these questions is as certain and fixed as the problems of geometry. Perhaps a large number of medical men who have given great attention to the subject of inebriety and heredity may be ignorant and have overlooked the great truths which Dr. Reid is so certain of, but at all events they have written with diffidence and hesitation, confident that there were other facts not yet established. The

contemptuous superiority of statement is always an early stage of immature knowledge, from which authors pass after a larger experience. The author has stated many interesting facts, but his conclusions are so far from the studies and experience of others that it would be unsafe to follow him.

Another book on this subject by the same author, if followed along his line of dictum of evolution, might bring the subject down to levels of practical experience. In the meantime all such discussions must be put aside as impracticable and unverifiable. The publishers issued a very neat volume, but the book itself adds nothing to the literature of the subject.

MORPHINISM AND NARCOMANIA FROM OPIUM, COCAINE, ETHER, CHLORAL, CHLOROFORM, AND OTHER NARCOTIC DRUGS; also the Etiology Treatment and Medico-Legal Relations. By Thomas D. Crothers, M.D., Superintendent Walnut Lodge Hospital. W. B. Saunders & Co., publishers, Philadelphia, Pa.

This is the first book written in the English language devoted exclusively to this subject and the narcomanias from other drugs. In many respects it may be called the first systematic treatise published in any language for the purpose of grouping together the general facts of drug addictions. Many of the topics are new to literature. The chapters on the medico-legal aspects of these narcomanias are the first studies to point out some of the conditions which come into prominence in court procedures. In the treatment of these subjects the conditions of cure and the possibilities of permanent restoration are made clear and distinct. The author, Dr. Crothers, has had a long experience in this special work and has probably seen more of these cases than any other physician of the present day. He has also been a student of

the literature of the subject, and hence is able to present a very clear summary of the whole field. While the book is designed for physicians and intended to suggest other and more exact lines of study, it has a general interest to the layman, who for the first time realizes that these so-called habits are diseases which can be treated by medical science with as much certainty of cure as in other affections. The fact that a large number of physicians are sufferers from this disease gives an increased interest to the topic. The book evidently marks the beginning of a new era and will stimulate further study in this direction. The publishers have brought out an exceptionally fine book.

MAGEE PRATT.

DA COSTA. CLINICAL HEMATOLOGY. A Practical Guide to the Examination of the Blood with Reference to Diagnosis. By John C. Da Costa, Jr., M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hematologist to the German Hospital, etc. Containing eight full-page colored plates, three charts, and forty-eight other illustrations. Octavo, 450 pages. Published by P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. 1901. Price \$5 net.

This is one of the most complete and valuable books on this subject in the English language at present. A special feature of importance is the divisions of the subject. First, the general clinical examinations of the blood; then the blood as a whole, giving the various changes and conditions which are found. The other sections give minute descriptions of the diseases of the blood, also the condition of the blood from various diseases. The mass of new matter gathered in the illustrations makes it exceedingly valuable, both for the general practitioner as well as the specialist. The mystery gathering about the blood changes is cleared away in this book, and the simplicity of all examinations and studies in this field

is greatly increased. The data which the author has presented are taken from extensive records and furnish a very complete general description of what may be regarded as accurate concerning the changes and technic of blood examinations up to the present time. This book is invaluable for both the general practitioner and the asylum physician, and is one of the few books that should be in the library of every active man. The publishers have brought out their usual excellent typographic work, which only the old and reliable houses excel in. We hope to quote some passages from this book, showing the effect of alcohol on the blood, in the future.

CURE OF THE MORPHIA HABIT. By Dr. Oscar Jennings. William Wood & Co., publishers, New York city.

This is an up-to-date edition of Dr. Jennings' little book brought out in 1890. Two methods obtain in the treatment of morphinism—slow and rapid opiate decrease. Abrupt morphine quitting deserves no mention except to be denounced. We care not who commends it—the “cruelty of ignorance”—it is brutal, utterly unworthy a healing art. As a treatise on the slow plan this is latest and best.

En passant Dr. Jennings says “morphia habit.” “Habit” is a misnomer. It is not a “habit,” it is a disease—quite as much so as epilepsy or periodic fever. We think Dr. Jennings' method can be bettered. He continues the subdermic decrease till a daily taking of two grains is reached, and then quits the syringe. It is better to end the needle at once. It can be done. Of hundreds of cases under care during the past thirty years in only two—both women, one eighteen years ago, one last year—were we compelled to continue subcutan. If under ten grains daily, an increase of one-half or double the morphine must be made. Quitting the syringe

breaks a large link in the chain of addiction and brings a change for the better, both psychic and somatic. There is no doubt of that.

Dr. Jennings changes from skin to bowel. That is unpleasant; to some, repulsive; above all, it is needless. By the mouth works well. The rate of decrease varies, but in all cases care is taken to conserve the patient's comfort. The time required may be months; the régime roborant throughout, with such nervine adjuncts as may be needed. To Dr. Jennings, credit must be given for the use of bicarb. soda and trinitrin in this disease. The former, or some other alkali, makes the so-called "chemical demorphinization" of the Germans, for which they claim much. But superalkalinity is not a specific in morphinism — merely an aid. Some striking cases are cited, and the book is optimistic — rightly so as to cure. MATTISON.

In a little book called "Around the Pan," published by the Nutshell Publishing Co., 1059 Third Ave., New York, there is a picture of the late President McKinley. The picture is drawn in a single line, round and round, in a widening circle, and is considered a unique work of art. The book is a pictorial humorous description of a journey to the Pan-American Congress.

William Wood & Company have in press a new work on insanity, to appear as a revised edition of the reference handbook of medical scientists, edited by Dr. Buck of New York city. Twenty-two different articles relating to this subject are to be written by specialists who are authorities of the subject they treat. This will be one of the valuable books issued during the year.

W. B. Saunders & Co. of Philadelphia have recently issued a practical manual of insanity, edited by Drs. Bower and

Bannister of Chicago. Both of these editors are distinguished alienists and leaders of the profession, hence the work will undoubtedly be valuable. The work is intended to meet the wants of the general practitioner, and we predict a very large sale for it.

The *Homiletic Review* continues to publish most interesting researches of Egypt and the Holy Land. Many of them are condensed statements of the latest discoveries of these old buried civilizations. These papers alone make the *Review* invaluable to all who would keep in touch with the advanced movements of the day. Funk & Wagnalls are the publishers.

Frank Leslie's Weekly is a regular visitor that is welcomed in all families. Its literary and pictorial contents are admirably arranged to instruct all classes. No illustrated weekly is more carefully treasured as a history of the times, and none can be bound up with more satisfaction and read in after times with greater pleasure.

The last numbers of the *Popular Science Monthly* are very interesting from the variety and originality of the papers presented. Several of them are advanced contributions of great value, which are real additions to the literature. There are no rivals of this journal in the field of science for popular readers.

The *Scientific American* brings weekly a rich table of new researches in science and literature. We commend it most heartily to all our readers.

The names of habitual drunkards in Lauben, Silesia, are printed and a list given to each saloon keeper. Any one supplying one of them with intoxicants is subject to a heavy fine.

Editorial.

DELUSIONS PECULIAR TO INEBRIETY.

There is no one symptom of mental change, so constant in inebriety, as the delusive faith in the ability to stop all use of spirits at any time. This delusion of free will begins from the first use of spirits and grows with increasing intensity down to the last moment of life. Continuous failures and the experiences of years, without a single confirmatory instance sustaining this belief of ability to stop, make no impressions on the mind. On all other topics there may be a general recognition of cause and effect and the lessons of experience, but in relation to drink, this delusion grows constantly. The demand for spirits as a controlling power in the organism is unrecognized and the mind seems taxed to find reasons for explaining the inconsistencies that come from its use. This delusion of strength, to stop at any time, is encouraged by the friends who believe it to be true and condemn the patient for failure to carry it out. No matter what conditions or necessities may exist for abstaining, spirits are used and the patient insists that he cares neither for the taste or effect of spirits and can stop at any moment. This belief is sincere and emphatic, and should a free interval occur in which no spirits are taken this is considered evidence of the will power to stop at any point. The use of spirits in conditions where personal interests and that of the patient's family suffer, and where the act is practically suicidal, are explained as mere lapses which could have been prevented by a mere act of the will. This delusive state is unrecognized by temperance revival movements and many reformatory efforts, where the central object is to awaken the free will, which is

general average. Clergymen are the only persons of those named much below the average. Railway engine-drivers are quite as sober as ministers, and fishermen only one per 1,000 ahead of preachers for inebriety.

These figures completely smash the argument that education is a cure for drunkenness, and they do not tell the whole truth. Dr. Tatham significantly adds:

It requires but little study of the statistics of occupation to convince one that the mortality directly ascribed in the registers to intemperance forms but an imperfect measure of the mischief accruing from the abuse of alcohol. In certifying the cause of death of inebriates it is the habit of some medical men to state only the pathological condition of the organ or organs chiefly affected. The experience of this office shows that cirrhosis of the liver, for instance, is frequently returned as the sole cause of death in such circumstances, the fact that the abuse of alcohol has induced the cirrhosis or other morbid condition being omitted from the certificate. This is especially noticeable in regard to the deaths of relatively well-to-do people (pp. 90-91).

This makes the affluent classes much worse than the figures indicate.

It will doubtless shock many to learn that medical men are above the average for drunkenness, the figures being fourteen instead of thirteen. Dr. Tatham says physicians as a class are improving, and adds: "The mortality definitely ascribed to alcoholism has fallen to about the same level as that of the whole population." Most people know, or have known, physicians addicted to alcohol. The uncertainty of their business hours, the unpleasant nature of some of their duties, the importunity to drink on the part of patients, and probably most of all, the associations of their student days, lead to the formation of the drink habit. Chemists, it will be seen, are much above the average.

Musicians are notoriously addicted to drinking. The term

supposed to be simply dormant. In many instances these very efforts intensify and fix the delusion of free will, making recovery more and more uncertain. It is curious that this most insane faith should not be recognized from the everyday experience of failures to abstain by nearly all inebriates. As a symptom of disease, this is beyond all question, and is really more distinct than any other delusion.

Another delusion, common in all inebriates, is that which springs from palsy of the sense of taste and in disordered nutrient impulses. These are dietetic delusions in regard to foods and food values. The inebriate is never satisfied with the kind of food or its quality. He is always experimenting with new condiments and new stimulating nutrients. His appetite varies; now craving one article of food alone, then another; always expecting new strength and vigor from the changes. The digestion is deranged; retained and unassimilated food products are sources of poison from which new germ growths spring. Depressions, local congestions, failures of nutrient co-ordination, and disturbed mental states follow. Condiments, stimulating foods, and foods containing excessive starch and albumen are craved or repelled. A great variety of most complex disorders follow, which do not come in the range of indigestion, and yet are literally delusive states. Many of these persons give much time to the study and experiments with different foods, attaching undue importance to this or that food, then changing to some other form, and always more or less dissatisfied with experience.

Another delusion is very common in the latter stages. It may be called that of doubt and suspicion of the motives and purposes of others. The former confidence and faith of the patient gives way to suspicion of sinister motives and purposes of his friends to take advantage of his condition and do him injury. Acts of kindness are misconstrued. Advice

is supposed to have a motive. The patient becomes more sensitive and irritable at opposition. He becomes more pessimistic and dwells on the supposed obstacles which seem to oppose his purposes and plans. His former confidence is lost in friends and family. Those most nearly connected with him are objects of suspicion. The mind becomes more and more unstable and, while showing extreme confidence at one moment, is suspicious the next, believing the most extraordinary motives in the act and conduct of friends. Sometimes these delusions concentrate in definite directions with great intensity, particularly where the patient has property. He sees in the conduct of his friends plans to rob him, and drinks to excess, and explains this as due to these plots. If he is ambitious for position or power, the same intense skepticism concentrates about the conduct and motives of his friends to keep him back. He will come to the asylum under an assumed name and disguise and falsify all his past, believing in this way he can conceal his present. This secrecy is so childish as to betray itself. If the delusion concentrates on matters of making money it will manifest itself in miserly and dishonest acts. The patient will want to make a hard bargain for his treatment, will claim to be poor. He will falsify and even steal when the occasion occurs. His dominant thought will be to take advantage.

Such persons are often kleptomaniacs and unscrupulous in money matters. Another delusion is very common in the latter stages, that of infidelity of wife or husband and suspicions of intrigues. The nearest friends will often be considered as the most immoral and treacherous in their conduct. These may be called sex delusions and sometimes are very apparent in the scandals which such persons take pains to repeat and seem to gloat over. In the early stages this form of delusion is not unfrequently present. Another form of delusion is that of great wealth or ability to make wealth. This resembles the delusions so common in paresis, except

that it does not go on beyond a certain limit. The patient will always feel that he can make money and do other things not common in the ordinary line of events. Ordinarily he will be content with plans and schemes of success and believe they will occur, without taking into account the means for their accomplishment. These delusions are common in nearly all cases and are seldom recognized and never studied.

Many of the most serious railroad and steamboat accidents have been found in the final analysis to be due to the bad reasoning and faulty senses of the responsible persons in charge. When these accidents are studied they are traceable to distinct physical causes, among which the use of alcohol is most prominent. Thus the engineer who, tired and worn, takes a drink of spirits, which all unconsciously depresses the acuteness of his senses and dulls his reasoning power. Later the train orders are confused and the danger signals are not correctly seen, and a frightful accident follows, in which he perishes. No one realizes that all this was due to the glass of spirits taken to relieve his wearied state. The captain of a great steamship used spirits to keep warm while on the bridge, and a few hours after made a terrible blunder. No one recognized the connection between the spirits taken and the accident, and yet it was simply cause and effect. His usual mental clearness was dulled and his judgment impaired. An architect planned a great block of buildings which collapsed, and he was punished as dishonest and fraudulent. In reality it was the alcoholized brain of a man who drank daily, and yet his friends saw no connection between the faulty plans and the accident which followed. An engineer who drank at night and in so-called moderation decided that a reservoir dam was safe and would bear any pressure. Later it burst and many lives and immense property was destroyed. Here the same mistake was made, in trusting to the faulty reason-

ing of the engineer. This list of disasters and losses might be extended almost indefinitely, and only recently is there any suspicion that the use of alcohol was an active predisposing cause. The delusion that alcohol used in small quantities never impairs the integrity of the senses and reasoning is contradicted by daily experience. A still greater delusion exists in supposing the inebriate to be simply a moral victim, not diseased. It is this error that crowds the criminal courts with victims, who are crushed out in the efforts to restore them. Scientists are teaching the great lesson of prevention, which insists that all responsible men, holding positions of trust, should be total abstainers.

The term "psychic epileptic inebriety" correctly describes a large class of inebriates who use alcohol and drugs impulsively and in a most insane way. When the paroxysm is over, the childish ingenuity displayed to explain the causes for the use of spirits is still further evidence of the delusional and disease states from which they suffer. The psychic centers of the brain are overwhelmed and sudden explosions of nerve energy follow, which take on the form of epilepsy. These are followed by irritation, prostrations, and stupor. These phenomena are largely unknown at present and explained by the term "vicious" and "willful." In reality it is disease and pathologic expressions of morbid mentality. It is practically some effort to throw off the normal poison of the body, which accumulates and demands relief, or some great struggle to adjust the physiologic and psychologic energies of the brain. Perhaps this uncontrolled energy and adjustment of forces comes down from degenerate ancestors.

The article which we publish in this number on the action of electric light has unusual interest from the fact that it has come into use in several private insane and inebriate asylums.

In Walnut Lodge Hospital it has been in use nearly a year with most gratifying results. While it is too early to speak positively of its value, it is clearly evident that in the treatment of inebriety it is an agent of great power, from which we have every reason to expect results which at present are only dimly foreshadowed.

The state of Iowa has passed an act to provide a department in one of the state hospitals for insane for the detention and treatment of dipsomaniacs, inebriates, and those addicted to the excessive use of narcotics. The manner of commitment is the same as that for insane, only that patients can be discharged on parole, to be returned any time should they relapse.

A bill for an inebriate asylum is pending in the Georgia legislature, which will undoubtedly pass at this or some future session. In four of the Western states bills have been introduced for inebriate asylums in the past winter.

Our association will hold a joint meeting with the American Temperance Medical Association at Saratoga Springs, Wednesday morning, June 11, 1902.

Clinical Notes and Comments.

PUBLIC ASYLUMS FOR ALCOHOLISTS.

Prof. Shafer Lengerich of Berlin, Germany, has lately in an interesting paper treated the question of public asylums for alcoholists. The different points he treats on are as follows:

1. Drunkenness, acute and chronic alcoholism are each a kind of insanity.

2. From a theoretical standpoint it is indifferent if alcoholists are treated in special asylums or in general insane asylums, but the first is the most practical way.

3. Public asylums for alcoholists are greatly needed.

4. Only graduated physicians ought to be in charge of such asylums.

5. Laws must be enacted by which alcoholists, under certain circumstances, can even against their wishes be sent to such asylums.

The author tries in a rather lengthy article to prove his thesis.

The Berlin Medical Society, department of psychiatry, took up this paper for discussion. The doctors agreed that theoretically Prof. Shafer Lengerich was correct, but his ideas were entirely unpractical. The general asylums for insane are overcrowded before, so it would be out of the question to treat the great number of alcoholists there. Concerning special asylums, private ones where the patients went willingly and stayed a length of time may be of some benefit. But drunkenness and alcoholism are only temporary insanity, dependent on the possibility for the patients to get alcohol. In a public asylum the patient therefore must be discharged after

a few weeks, maybe days, when he is considered cured, only to return in a short time for new treatment. As long as the state permits the sale of any alcoholic liquors of any kind whatsoever, such asylums would be of little or no benefit. The only practical plan is for the state to enact laws entirely prohibiting the sale of such liquors and to strictly enforce the laws.

ALCOHOLISM AMONG CHILDREN.

Prof. Brunnon, M.D., chief surgeon at the General Hospital of Rouen, Normandie, France, has lately published a paper entitled "Alcoholism among Children in France." Among all classes, from the highest nobleman to the humblest laborer, it is usual to give the children, yes, even the infants, coffee and alcohol in some form, at least once a day. The poorer use whisky and absinthe; the richer, strong wines or more expensive liquors.

This giving to the children alcohol has caused a certain kind of stomach disease and a kind of skin disease, just as common among the rich as among the poor, besides the general ailments mutual for all alcoholists. In many places whole families go under through this alcoholism.

ALCOHOLISM AND TUBERCULOSIS.

"Unhealthy dwellings cause other disasters. Dark and crowded as they are, cleanliness is difficult, if not impossible, to preserve. They are not pleasant to pass the time in, and the workman stays in his home as little as possible; he eats there and sleeps there, but the rest of his time is spent in the public house. Sir John Simon was right in saying: 'The wretched lodging is the purveyor to the public house,' and we can add to it that the public house is the purveyor of tuberculosis. In fact, alcoholism is the most potent factor in

propagating tuberculosis. The strongest man who has once taken to drink is powerless against it. Time is too short for me now to draw comparisons between the laws in force in different countries, those which are proposed, private efforts, associated efforts, and temperance societies. But I can say that a universal cry of despair rises from the whole universe at the sight of the disasters caused by alcoholism. I will quote but two sets of statistics, but they speak for themselves. Tatham's show that, the mean mortality being represented by 100, that caused by tuberculosis is in

| | | | |
|--------------------------------|-----|----------------------|-----|
| Barmen, | 257 | Sweeps, | 147 |
| Peddlers, | 239 | Publicans, | 140 |
| Dock laborers, | 176 | Coachmen, | 124 |
| Strolling musicians, | 174 | Coalmen, | 116 |
| Hairdressers, | 149 | Butchers, | 105 |
| Brewers, | 146 | | |

“Baudran of Beauvais has shown that mortality from tuberculosis and from alcoholism are nearly identical. In this connection he obtained the following results:

| Deaths from Tuberculosis in 10,000 inhabitants. | Annual Consumption of Litres of Alcohol per Head. |
|--|--|
| 30 to 40 | 12.47 |
| 40 to 50 | 15.21 |
| 50 to 60 | 14.72 |
| 70 to 80 | 16.36 |
| 80 to 90 | 17.16 |
| More than 90 | 50.70 |

“Any measures, state or individual, tending to limit the ravages of alcoholism will be our most precious auxiliaries in the crusade against tuberculosis, but the question is too large a one to deal with here. Still, I should like to draw attention to a mistake made too easily in the different countries by ministers who have the charge of the financial department of the state. They like to calculate the sum the state gets from the duty on alcohol, but they should deduct from it the cost to the community of the family of the ruined drunkard, his degenerate, infirm, scrofulous, and epileptic children, who

must have shelter. This invasion of alcoholism ought to be regarded by every one as a public danger, and this principle, the truth of which is incontestable, should be inculcated into the masses, that the future of the world will be in the hands of the temperate."—From Prof. P. Brouardel's address on the Measures Adopted by Different Nations for the Prevention of Consumption.

CORTICAL HYPERESTHESIA IN ACUTE ALCOHOLISM.

DRS. P. COLLOLIAN AND A. RODIET.

Experiments were made with the object of causing hallucinations in the alcoholic after the hallucinations caused by the alcohol directly had substantially subsided. Thus, by practicing gentle friction over the eyeball, touching the ear, tongue, or skin of an alcoholic, some time after the acute signs of alcoholism had disappeared and he had virtually become free from hallucination, it was found that the above-mentioned means causes acute and vivid hallucinations to reappear. These lasted from one to two minutes. In all cases examined this cerebral hyperesthesia existed, though varying in degree. In some the sight reacted most, in others it was the hearing, smell, etc. In one case, a hereditary degenerate, all of the senses reacted vividly, the whole brain, or rather all the sensory centers, being in a condition of hyperesthesia. Although the hallucinations thus produced have a peripheral cause, they are yet true hallucinations, for there is no hallucination without an excitation of the sensory currents; the peripheral excitation is sent up to the respective centers, is exaggerated by the hyperesthetic cells, modified and transformed into an image which is projected outside under the form of an hallucination; even in the cases where the hallucinations are caused by simple suggestion, the excitement is

an outward one. These phenomena are found not only in recent alcoholics, but also in other cases. All alienists are familiar with the fact that hallucinations can be caused in the insane by external excitation. Thus, in one degenerate every touch on the arm corresponded to a syllable; but such cases are habitually afflicted with hallucinations. It would be wrong to say that the external excitation above is responsible for the appearance of the hallucination, for a brain perfectly free from hyperesthesia cannot thus react. The insane in whom the phenomenon is observed are either degenerates or suffering from chronic delirium of persecution. In both cases there is cortical hyperesthesia, a cerebral excitability that responds to every slight shock by a hallucinatory image.

The alcoholics examined showed, besides the alcohol, a deeper cause—hereditary degeneracy which underlies the phenomenon in all the insane. Alcohol alone does not suffice to produce the cellular hyperesthesia. The repeated use of alcohol predisposes the subject more and more. This was observed on the patients who had become chronic alcoholics and had been admitted to the asylum many times. In all cases examined, where the stated results were obtained, there existed a stamp of hereditary degeneracy, due either to alcoholism or insanity in the ancestry, and the alcohol was only an exciting agent on morbidly prepared soil. In such cases the slight causes: a breath suffices to excite the nerve cell in the gray matter and to produce a hallucination. Although the hallucinatory disturbances are proportionate to the degree of hereditary degeneracy, much depends on the individual susceptibility. In conjunction with the existence of degeneracy, the nature of the alcoholic beverage has much to do with the manifestations in question. Thus, absinthe, more than other drinks, causes the cellular hyperesthesia. This beverage causes convulsions to take place, and it is a clinical fact that such drinks cause cellular hyperesthesia more than others; next in order come vermouth, amer picon, etc.

The question as to whether the absinthe drinkers do eventually become epileptics, not by reason of the drinking of the beverage, but by reason of its causing the special cellular hyperesthesia, is a subject for future study.—*Archives de Neurologie*, June, 1900.

At the November (1901) meeting of the Harvard Medical Society in New York city, Dr. John C. Munroe read an interesting paper on "Needless Laparotomy." He detailed some eight instructive cases, in which there were grave abdominal symptoms, apparently in need of operative interference, and the laparotomy disclosed an entirely different condition from the supposed surgical lesion. In five of these cases the abdominal section disclosed the existence of some unsuspected organic disease; in the sixth a diagnosis of appendicitis was made, but at the operation it was found to be a case of acute phosphorus poisoning, the woman having taken oil of phosphorus to produce abortion. The last two cases are perhaps the most interesting. The first was admitted to the hospital to be operated upon for a pancreatic tumor. The patient, shortly before entering the hospital, had been on a drinking bout and, on admittance, all the symptoms pointed to some abdominal lesion of a grave nature and seemed to demand immediate interference. At the operation no pathological condition was found. There was a suspicious hardening of the pancreas. A specimen was removed for examination, but it proved negative. The other case was a woman of questionable character, who, while under the influence of liquor, fell in the hold of a vessel in Boston harbor. The symptoms presented were those of some acute abdominal condition, and, as the fall had been a serious one, the suspicion was aroused that a rupture of the kidney might have taken place. The abdomen was opened, but absolutely nothing traumatic was found. After the operation it was

discovered that the patient, besides being an alcoholic, had the morphine habit. By withdrawing the drug, almost any train of symptoms could be induced. The patient recovered without incident.

Tea intoxication is still the subject of much comment in medical circles. On its introduction into England there was no end of disputes regarding its good and bad qualities, the discussion being carried on with much bitterness. Finally its popularity was strongly entrenched among a large majority of the people. Munson declared it to be an auxiliary food of great value, especially among those whose occupation was marked by great hardships, as soldiers on fatiguing marches, explorers in the Arctic regions, etc. It became the principal beverage of travelers in Siberia. The question then arose: Does the habitual use of tea injure the health of the user? There were strong arguments to prove the negative, and equally as positive in support of the affirmative. To prove the latter it was pointed out in the case of school children who begin the day with such a powerful cerebral stimulant and soon contract the habit, producing sleeplessness, a disinclination for wholesome food, and having the effect of unduly stimulating the brain. The more studious the child was, the more it was noticed that great mischief was worked; one case was known to be followed by fatal results, and in many others occurred an incurable dyspepsia. Among the poor who use it as a makeshift to enable them to withstand the rigors of their daily toil, innumerable symptoms of a diseased nervous system are soon manifest. Recently Dr. Gordon exhibited before the Neurological Society of Philadelphia a case of tea poisoning showing the symptoms of combined sclerosis and functional disturbances. A similar case was described by Dr. Slayter, in which sleeplessness, twisting of the muscular system, and extreme nervousness were prominent. This was

followed by a condition closely resembling delirium tremens. It has been proposed that to offset the evil influences of tea drinking among the poor to provide places where they can procure cheap but wholesome dinners, so as to provide at least once a day nitrogenous food in a quantity sufficient to enable them to escape the horrors of a constant tea intoxication.

Dipsomania, not drunkenness, is mostly seen in the men with extraordinary mental powers; the genius. It is here the laws of nature reveal themselves most plainly in the extreme of their manifestation. The world tries to excuse, palliate, or smooth over with specious and unscientific methods the moral eccentricities of these individuals. It calls them unfortunate vices, when in truth they are symptoms of disease.

In a genius we have the development of a single faculty at the expense of others. When this greatly developed faculty has for the time being exhausted itself, the other undeveloped faculties run riot, and we have the sad phenomena of some form of psychic epilepsy. This psychic riot, if inherited, does not necessarily take the form it had in a past generation. Environment controls the phenomena. This follows the law of material progress. The fundamental cause remains the same, but the effects are governed by circumstances. Hence men are more like the times they live in than they are like their fathers.

Bad social conditions, unfavorable environments, a predisposition for alcohol through heredity, faulty training, and neglect of moral education will cause lawlessness, drunkenness, and its concomitant vices; but aside from the vexed question of heredity we have none of these conditions existing as the cause of true dipsomania, but only as the effect during the attack. The unfortunate victims of this form of

defective nervous inheritance are generally those whose surroundings are the best, individuals of genial and honest natures, bright and highly intellectual. Many have been the most brilliant of their time.

As the majority of the individuals who suffer from attacks of dipsomania are those who live at a high nervous and mental pressure — physicians, literateurs, artists, and musicians — exhaustion of nervous energy is frequent and often continuous, and the reserve brain power is soon used up.

If this symptom of a nervous affection exists in the man of ordinary intellect, if this man periodically demonstrates his restlessness by resorting to alcohol to relieve his horrible feelings, it is called by the unthinking masses vicious drunkenness. This condition, however, is the disease inebriety, or its rapid form, dipsomania, and rarely prevails in the man of ordinary mental powers.

The psychic conditions producing the unreasonable passion to consume quantities of alcohol, morphine, and allied drugs is as distinct an affection as is the physical epilepsy seen daily on our streets. — *Dr. Howard in "Pervers."*

SMALLPOX THERAPY.

The prevalence of a mild type of smallpox throughout the country gives the therapy of that disease especial interest at the present time. Vaccination is, of course, unquestionably not to be overlooked as a preventive measure, but, in addition, infection may be made much more unlikely, and where infection has taken place the course of the disease is considerably shortened and shorn of its terrors by the administration of the valuable antipurulent ecthol. The Battle Company has just issued a pamphlet dealing with the use of ecthol in this disease. The pamphlet should be in the hands of every physician who may be called upon to treat smallpox. It will be sent to any physician who makes the request. — *Medical Fortnightly.*

In 1899 W. A. Holden reported that he had given a dog methyl alcohol and that afterwards he had found sufficient evidence in the retina of the degeneration of the ganglion cells to lead him to conclude that this degeneration produced the amblyopia. Since then Hirschfeld investigated the effects of methyl alcohol on rabbits and chickens, and gave them doses large enough to produce intoxication. The animals lost rapidly in weight and soon died. The retinae all showed marked signs of degeneration in the ganglion cells, and in one case changes were found in an optic nerve very suggestive of the lesion observed in man in chronic alcohol and tobacco amblyopia. Objection has been raised against accepting these experimental results on animals as necessarily identical with the effect of chronic alcohol poisoning on man, and the differences in the clinical features of acute methyl alcohol and of chronic ethyl alcohol blindness have been pointed out. Recently Friendwald of Baltimore, in order to obviate these objections, used various forms of alcohol in smaller doses over an extended period (almost four months). Pure and commercial methyl alcohol, absolute ethyl alcohol, and essence of Jamaica ginger made of ninety-five per cent. ethyl alcohol were employed, and the animal selected was the rabbit. The period of experimentation was sufficiently long, as was shown by the high degree of cirrhosis of the liver found in the rabbit fed with absolute ethyl alcohol. The animals were all in apparently good health when killed. The effects of all four substances were alike. The retinal ganglion cells showed marked degeneration, and the inner and outer nuclear layers were less affected. It was evident that methyl and ethyl alcohol act similarly on the retina in chronic poisoning, and that the degenerative changes produced by chronic alcohol poisoning are similar to those found by Holden and by Hirschfeld in acute methyl alcohol poisoning. These experiments are the first in which ethyl alcohol has been used, as well as the first in which degenerative changes have been demonstrated in chronic alcohol poisoning.

A late report from Paris states that 8,000,000 bottles of absinthe were consumed in Paris last year. This appears to be an increase of over 1,000,000 bottles from the year before. The report is very emphatic in calling this one of the most ominous signs of peril to the future growth of the country. Evidently some very strong measures must be used or this increase will continue and extend even to this country.

The Cincinnati board of education has taken the initiative in a most important matter of tobacco and its use by teachers and pupils. The chairman of a joint committee, Dr. Culbertson, who is an eminent scientist, has made a report concluding with the following resolution, which was adopted unanimously: "No teacher or principal shall smoke, in any school building or upon any school grounds, during school hours. Infraction of this rule shall be deemed sufficient cause for dismissal." A great trunk line railroad has recently issued a private circular advising that superintendents caution engineers and signalmen not to use tobacco in any form during working hours.

SCIATIC PAIN—PROMPT RELIEF.

In reporting his experience in the treatment of sciatica, Fred. E. Davis, M.D., of Brookside, Ala., writes as follows in *Annals of Gynecology*: "I have been giving antikamnia and heroin tablets a thorough trial in the treatment of sciatica, and I must say that my success has been phenomenal indeed. I have also induced two other physicians to give them a trial, and their success equals or surpasses my own. I meet with many cases of sciatica, and until antikamnia and heroin tablets were introduced I was compelled to use a great deal of opium and morphine to relieve the pain. Since then, though, I have not given either. One of my patients had been con-

fined to bed for three weeks during her last attack of sciatica. I prescribed one antikamnia and heroin tablet every four hours, and in forty-eight hours she was up and about and has not felt the pain since. I thank you for the introduction of this most excellent remedy, and assure you of my willingness to report the results of still further investigation."

THE PREVENTION OF OPHTHALMIA NEONATORUM.

In an article on the prevention of ophthalmia neonatorum, Dr. Lucien Howe of Buffalo (*Philadelphia Medical Journal*, January 18, 1902), whose name is so prominently identified with this subject, urges the enactment of laws which will make it compulsory upon the practitioner to adopt some form of prophylaxis against this disease, which is responsible for so many cases of blindness. He cites statistics by Kostling, showing that in 17,000 births where no prophylactic treatment had been employed some trace of ophthalmia developed in over nine per cent., whereas in 24,000 children treated by the Crede method the number who developed the disease was only one-half of one per cent. The Crede method, however, has the disadvantage of always producing some pain and usually more or less conjunctivitis, while in a few instances it has given rise to corneal ulceration. According to the statistics of Piotrowski, in 1,030 children treated with a strong solution of boric acid and a ten per cent. solution of protargol not a single case of ophthalmia occurred, while slight catarrhal conjunctivitis was observed in only one and two-tenths per cent. Aside from the numerous favorable reports on the value of protargol as a prophylactic against this affection by European authors, the drug is preferred for this purpose by many ophthalmologists in this country, including Drs. Alt, Peck, Cheney, Fox, Hotz, Zimmermann, Converse, and Todd. In commenting upon Dr. Howe's paper, the Phil-

adelphia *Medical Journal* remarks editorially: "If we cannot reach the fons origo of ophthalmia neonatorum, we can at least save the offspring from a life of darkness and protect the community from a source of burden and expense. That this can to an enormous extent be accomplished by prophylactic instillation need hardly be repeated, and its negligence constitutes a sin of omission that deserves commensurate punishment. The enactment of such a law is feasible, its interpretation obvious, and its enforcement not difficult, provided the accoucheur receives the intelligent support of an intelligently instructed community."

The Central Chemical Company of New York are sending out large quantities of their new antialcoholic remedy called *Quassin*. This is a preparation of quassia chips, which have a powerful influence in lessening and neutralizing the impulse to drink spirits. Given in one-ounce doses every hour it has a peculiar narcotic effect in checking the desire for spirits, and is finally followed by an aversion for it. This preparation in our experience is the safest and most reliable of all drugs used for this purpose, and we most heartily indorse it, confident that it will be used very extensively in the near future.

Altris Cordial is an emmenagogue, not abortifacient. It cures congestion of the uterus and ovaries, and favors the occurrence of the menstrual discharge. It is also especially appropriate when the amenorrhœa depends upon anæmia. It regulates menstruation, and is useful in all the derangements of menstruation, namely, amenorrhœa, dysmenorrhœa, and metrorrhagia, provided these disturbances be idiopathic. By curing menstrual disease, a common cause of sterility, it will also cure the sterility. It is also recommended in erosions of the cervix and vulvar eczema.

Bovinine continues to attract attention and is one of the few remedies that has reached a permanent position as a therapeutic agent. In the recent smallpox craze it has been used in the pesthouses with the best results, evidently neutralizing and limiting the germ disease and in some way lessening its virulent power. In nervous diseases we continue to use it with increased satisfaction. To any one who has never tried this remedy, we heartily commend it as a most satisfactory drug in many ways.

Fellows' Syrup of Hypophosphites contains one sixty-fourth of a grain of strychnine; also iron, lime, potash, manganese, and quinine. These preparations are admirably adapted for states of nervous exhaustion, and in most instances prove to be very valuable remedies. While this is a proprietary drug, it differs from all others in containing well-known remedies, whose value has been established by long experience. In the treatment of prostration following inebriety this has proved of great value.

We have a few sets of the *JOURNAL OF INEBRIETY*, dating back to its first issue, 1876, which should be in the prominent libraries of the countries. With the exception of two or three copies, the sets are complete. We should be glad to correspond with any one who cares to possess a set of this unique journal, which comprises about all the literature on the subject which has been published up to date.

We refer to the list of leading books on diseases of the brain and nervous system, and hope to make this a feature of our next number. It is of great interest to every physician to have a list of leading books from which to select. During the last six months a number of new additions to this list has been made.

Listerine is one of the safest and most trustworthy of the antiseptic remedies now on the market. It is prepared by the Lambert Pharmacal Company of St. Louis, and has been long tried and tested, and is used very largely in hospitals and other places.

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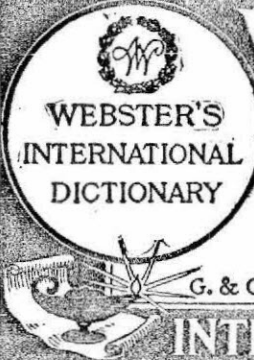


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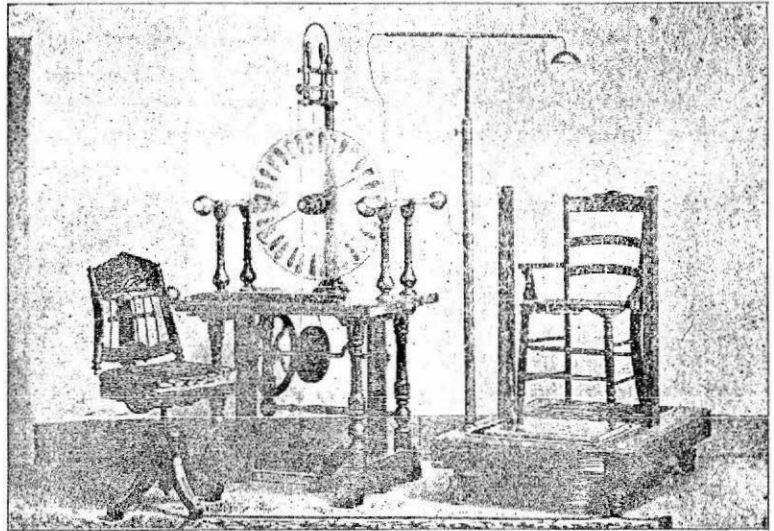


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III. The active membership of this association is composed of physicians in good and regular standing who are actively connected with such institutions or who have been honorably retired from active service in connection therewith.

IV. Physicians not connected with such institutions, and members of boards of direction of such special hospitals, asylums, etc., are eligible as associate or lay members of this association upon payment of the dues of membership.

V. The object of the association is:

First, to promote the scientific study of alcoholic inebriety and kindred drug habits, and to encourage desirable and special legislation with reference to the care and control of alcoholic and other drug inebriates.

Second, to isolate the chronic pauper inebriate from the insane and criminal class, and secure the erection and maintenance by the several states of institutions for the segregation and special treatment of chronic pauper inebriates, and to incorporate farm colonies, or other forms of institutional relief, which shall combine medical care with proper occupation, judicious control, and discipline.

Third, to secure in all states the special supervision and inspection of all institutions for the care and control of inebriates or other drug habitués.

Fourth, to discourage and prevent all efforts to treat alcoholic inebriety or the opium or other drug habits with secret drugs and so-called specifics, and to prohibit the sale of all nostrums which claim to be absolute cures and which contain alcohol, opium or its alkaloids, or other pernicious and harmful drugs, or which contain substances which are inert and so are fraudulent impositions on the public.

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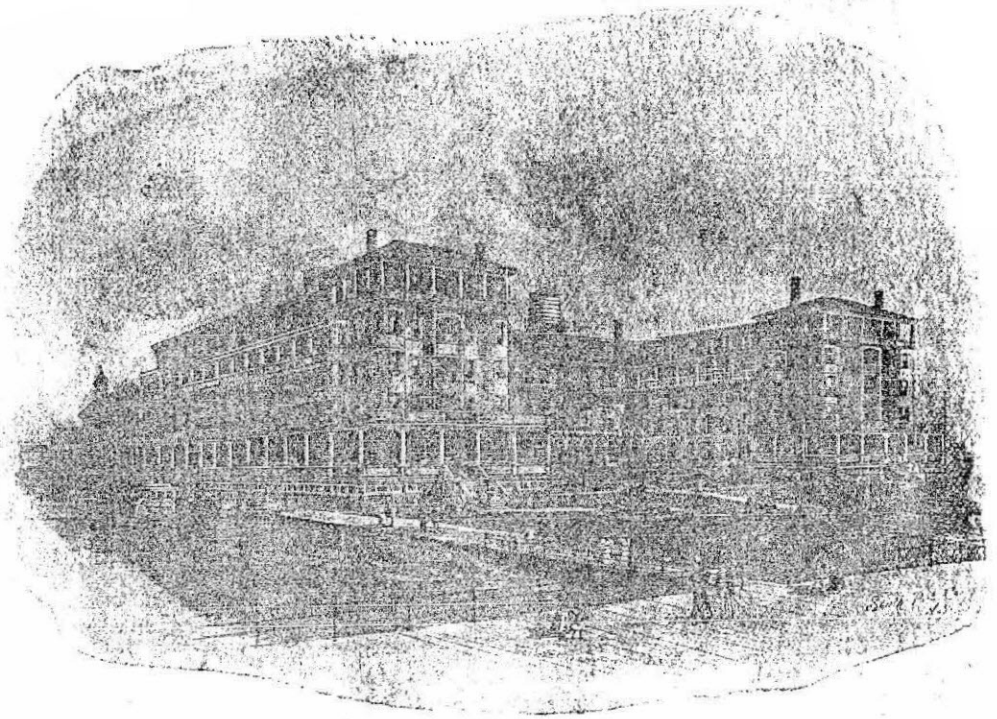
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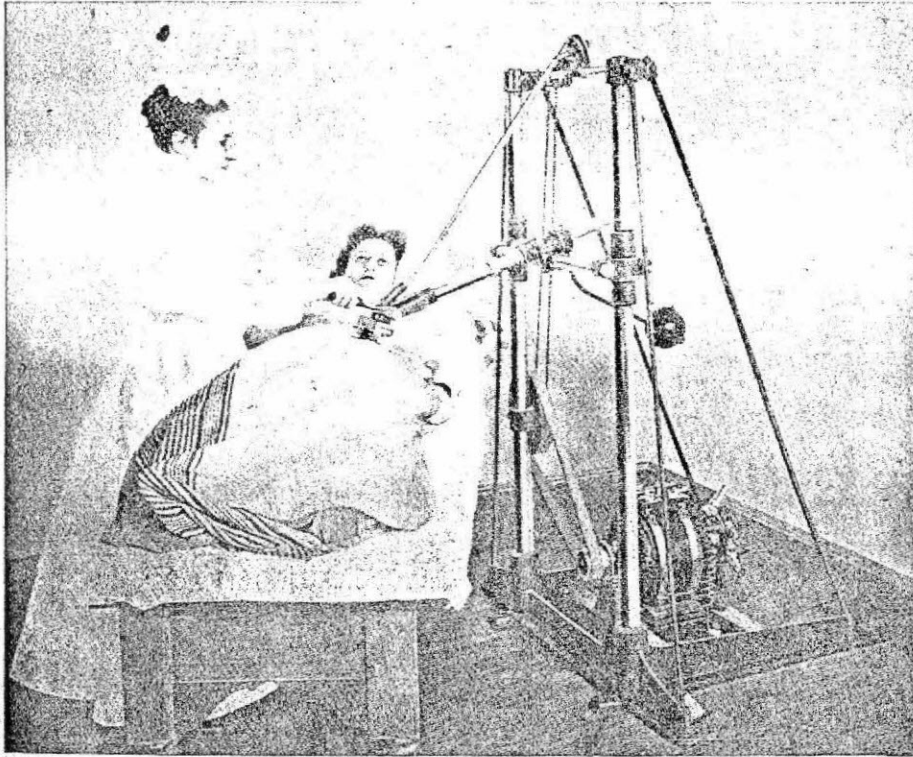
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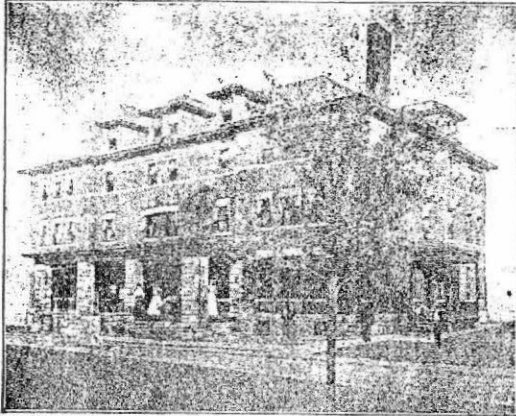
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