

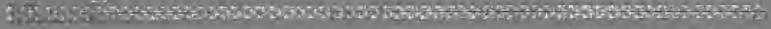
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Drug Habits and Their Treatment



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The Drug Habits and Their Treatment

*A Clinical Summary of Some of the General
Facts Recorded in Practice.*

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PREFACE.

The Disease of Inebriety is now passing through the empiric and squatter stage of development, which meets every new truth of science. The partial recognition of the Disease of Inebriety has attracted the empirics, who, like squatters in a new country, rush in and occupy the land with great noise and pretension. They never build towns or cities, or develop the country, but disappear when permanent settlers arrive. This little work comes in the capacity of a permanent settler, and aims to point out some of the general facts and conditions of Inebriety, and to indicate the great possibilities awaiting further research and more exact study. The curability of this form of neurosis is established beyond question, from the limited studies and experience of the present. Evidently we are on the threshold of a new realm of practical science, in the study and cure of the Disease of Inebriety, and the results may exceed any present expectation.

The Journal of Inebriety, which was established in 1876 to promote the study of spirit and drug neuroses, has published nearly all the literature on the subject for the past quarter of a century. The

student of this topic has to do pioneer work with little or no aid from others, and this volume comes as an assistant to suggest lines of study and point out the direction for future inquiries.

These neuroses are rapidly increasing, and their study and treatment is becoming more and more imperative. The colleges will have to add to their curriculum this new field of study; already a New York college has taken up this subject and lectures are given on the topic. This work is only a general discussion of a topic which will be treated by the author more exhaustively in a larger work now preparing. If this work brings new interest to the subject and increases the number of scientific workers, its object will be accomplished.

T. D. CROTHERS, M. D.

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CHAPTER I.

HABIT, AND THE DAMAGES OF ALCOHOL.

The popular and common meaning of the word *habit* is some state or condition of the body, voluntarily acquired and continued at the will of the person. Conduct and acts which can be changed or checked by the will, and are apparently under the control of the person, are called habits. In its broader, scientific sense, there is a physiological and psychological tendency to repeat the same acts apparently outside of the control of the will. It is this meaning of the word habit which will be used in the present study.

Of all the drugs used either medicinally or as beverages, alcohol seems to be the most destructive. In recent times this fact is becoming more and more apparent in science studies. All the recent text-books on the practice of medicine recognize the dangers from the use of alcohol, and its influence as a contributory cause in many of the organic diseases of the body and brain. The modern clinician inquires into the history of the use of alcohol, either moderately or immoderately, and this fact is important in a knowledge and treatment of the cause. Next to syphilis, alcohol is one of the most potent poisons in the causation of dis-

ease. In the neuroses, alcohol is very prominent as an active or contributory cause. The various palsies, mental derangements, and disturbances of nutrition, circulation and obscure organic affections, are always better understood when all alcoholic causation is eliminated. In pneumonia, the prognosis is very different where there is no history of the use of alcohol. In surgical treatment the fact of the use of alcohol complicates the results. While alcohol is still used as a medicine in many instances, its influence as a cause of disease, both active, predisposing and contributory, is becoming more and more prominent. Recent researches show that alcohol has a peculiar, corroding action on the cell and tissue. It is not only a toxin but produces toxins which are chemical and physical poisons. Every new advance in the chemic, physiologic, pathologic and psychologic fields brings out this fact of the danger of alcohol either in moderation or in excess. The increasing number of cases which become disabled and degenerate in almost every community from the use of alcohol suggests something more than moral lapses and sinful weakness.

HISTORY AND ASSOCIATION WITH OTHER DISEASE.

A clinical study of accurately grouped histories of a large number of cases brings ample confirmation of the fact that inebriety or alcoholism is a disease. A closer study of these causes indicates a

distinct and clearly traceable causation, also a uniform development and progress, and a uniform symptomatology and termination. The physical conditions apparently resulting from the poisonings of alcohol on the nerve centers and organic activities appear to follow a definite, organized line of degeneration whose progress and termination can be traced with much certainty.

The idea of disease is very old, and dates back to the early ages of the world. The fathers of medicine asserted that drunkenness was a disease, and curable as other diseases. Hippocrates, Galen, and many of the old worthies gave strong opinions on this subject but these facts were not formulated into theories until the beginning of this century when Dr. Rush in this country, and Salvator of Russia, and Cabanis of France, formulated and put into active service these facts. The disease of inebriety and its pathology and treatment has been studied more accurately in America than elsewhere. The first inebriate asylum organized in 1864, took up this subject as a medical one in advance of all others. From that time the growth of the subject has extended all over the world, and researches and literature have been very largely the result of the efforts of Americans. The *Journal of Inebriety*, the organ of this new study, has been published since 1876, giving researches and facts along this line exclusively.

When the drink symptoms of alcohol are examined with more care, they are found to be closely related to a great variety of neurotic diseases. In many cases they appear to be phases or types of epilepsy, hysteria, neuralgia, also closely allied to consumption, and intimately connected with heart disease. Many of the degenerations of the nerve centers, such as the palsies, the parietic states, have alcoholic stages and symptoms. Neurasthenia in all its types and forms is often manifest in this way. Nerve storms, such as headache, neuralgias of the stomach, and various parts of the body often precede and follow alcoholic excess. The various organic and functional affections of the heart often exhibit this drink symptom. Tuberculosis alternates with drink excesses. At one time acute symptoms of breaking down of nerve structure is checked by the advent of a drink craze. When this subsides, the acute symptoms reappear. Not unfrequently they are associated, and it is difficult to decide which is cause and which is effect. The epilepsies seem to have drink symptoms more commonly than other diseases, the drink craze taking the form of paroxysm and subsiding after a time in much the same way as the epilepsies. The periodical drinkers are very largely of the class of explosive epilepsies in which nerve energy gathers and bursts at stated intervals. The frequent use of alcohol in these neurotic cases

suggests the disease character and the action of physiological laws which are at present largely unknown.

FORMS OF INEBRIETY AND DRINK HABITS.

The various forms of alcoholic drinking may be grouped into three classes, namely, the continuous, the periodical, and the regular. Beyond this there is a class which may be called the contagious or neurotic cases which seem not to drink except from peculiarly exciting conditions. These various classes are well-known and often merge into each other.

The continuous drinker seems to possess the power of using alcohol in uniform doses at short intervals without exhibiting any marked derangements of character and conduct. He belongs to those who pride themselves on being able to drink without any serious damage. They are the moderate drinkers in every community whose masked condition is misleading to all except to physicians. They die suddenly from congestion of the brain, hemorrhage or pneumonia. Often they are found dead in bed or die from heat or sun-stroke. Some of these persons become insane, usually of the type of dementia. Others have palsies from which they never recover. Such persons suffer first in the community from the presence of epidemic diseases, and seem to have no resisting power to concussions, injuries or shocks. The spirit and beer-drinking longshoremen at Liverpool have a

frightful mortality. Yet they are types of physical strength and vigor and seldom appear to suffer from intoxication. They are unable to resist the slightest attack of disease, and die from the simplest injuries. In this country few moderate drinkers attain the average longevity of the race unless they are muscle workers and live in the open air. As brain workers, living indoors, their length of life is greatly diminished.

Most of the drinkers after a variable time merge into periodical or impulsive drunkards, and drink to stupor or maniacal conditions. It rarely happens that men can drink in moderation in this country where the condition of mental strain is intense and exhaustive. The periodical drinker is always a neurotic. The excessive use of spirits after a free interval is of the nature of a nerve storm. The morbid gathering of the energies of the system explodes in this impulsive, unreasoning demand for relief which alcohol most quickly overcomes. There will be perfect freedom from desire, and even distrust for spirits up to a certain point; then an overpowering impulse to drink will follow. Nothing short of complete saturation from alcohol and profound and repeated narcotism, which seems to exhaust the nerve energies, will satisfy this morbid demand. The abrupt beginning and sudden termination of the drink paroxysm indicates its neurotic nature.

Then follows a long free interval. In some instances the return of the drink paroxysm is uniform as to time, rarely varying more than an hour. This periodicity is so absolute and positive that it can be traced, and even anticipated. In other cases it is irregular, and depends upon unknown conditions or on some special exciting cause, which when removed, is followed by a cessation of the paroxysms. Many of these cases are literally epileptoid, and frequently merge into convulsive spasms which are called alcoholic epilepsy. The palsies after the cessation of the drink craze and the convulsive activity of the muscles indicate central brain lesions of grave character. The symptomatology of these cases is a very interesting study, and while each case differs widely there is often a uniform movement which can be readily traced.

SYMPTOMATOLOGY AND CLASSES OF DRINKING MEN.

Many of these cases appear among the active brain workers of the country, and their addiction is concealed. The sudden disappearance of energetic, active men, and their return in a week or two a little paler are the general indications of these alcoholic attacks. Some of these cases use spirits only at midnight and alone. Others never drink except at the club and in certain company; and then only at stated intervals. Many of these

persons frankly confess that they go off to indulge in this alcoholic narcotism, that it is an irresistible charm which they are powerless to control. Others conceal these attacks or explain them as due to other causes.

Not unfrequently these attacks end in acute mania from which recovery is very slow, and in many cases does not follow. After the subsidence of the drink storm, the mind often retains its exalted and delusional state, and permanent mental troubles begin. Some of the most dangerous homicidal cases have followed the drink excess of periodical drinkers. General paralysis is often a sequel of this form of drinking. Paranoia, and many of the obscure mental disorders come from this cause.

The third class of irregular or impulsive drinkers are very numerous, and drink or abstain from causes and conditions very obscure. Sometimes a period of abstinence extending over years will occur, then they will drink to excess and continue at irregular intervals for an indefinite time. Such persons drink when excited or from overwork or underwork or any other causes which seem to break up the uniformity of their life and surroundings. Many of these persons explain the drink craze by the most trifling, childish theories. Often they appear in temperance meetings, and describe with great minuteness their sin of drinking, giving

great prominence to the struggles which they claim to have undergone in the effort to abstain from drink. They are also prominent at prayer-meetings, and pose as types of the power of conversion. There is in this class a mixture of imbecility and delusional cunning which is not well understood. At times they appear like dipsomaniacs overwhelmed with a mad craze for spirits but unlike this class, when forced by adverse circumstances and with apparent objects to gain, they show remarkable power of abstinence. Others of this class drink in favorable circumstances only, and abstain when their interests are in peril. The drinking seems to be of a mental as well as a physical type. The mind recurring to alcohol as a help when the conditions are favorable. They alternate between extreme condemnation of persons who use it, and childish theories and explanations of their own addiction. They are filled with buoyant and most extravagant theories of the methods of relief and means of escape, and are the most devoted advocates of all new remedies and means of treatment. Among these persons the mental element will often develop into fixed delusions of the necessity of alcohol as a medicine, and many of the most devoted advocates of the tonic and stimulant powers of alcohol belong to this class. Some of these persons use wines continuously, and only resort to alcohols at long inter-

vals. Such cases become demented after a time, and are noted as cranks, paranoiacs and persons with twisted brains. They belong to the eccentric class, and those who are uncertain, unreliable, unstable, and likely to develop into more pronounced forms of mental disease.

A study of the causes of these different classes reveals varied and complex conditions. When the histories of a large number are carefully gathered and compiled, it is found that over sixty per cent have inherited from their parents a predisposition to seek for some relief for states of depression and ill-feeling.

HEREDITY AND FORMS OF PREDISPOSITION.

These causes are divided into two classes, one called direct and the other indirect. The direct heredities are those where the parents have been moderate or excessive drinkers. The indirect heredities are cases where grandparents drank or used drugs.

In the first class, there is often a direct transmission from parent to child of the drink impulse appearing at about the same time as in the parent, following a uniform course, and ending in the same way.

Example. One family for three generations had several sons in each branch who began to drink at puberty, and either died or became total

abstainers at about thirty years. The daughters in these families were drug-takers and alcoholics, hysterical, and epileptoid. Some of them died in early life but all showed marked defects of brain and nervous system.

The rule is that where alcohol takers have large families, the tendency is to an early extinction. The defects transmitted seriously impair longevity under the most favorable conditions. Many children of drinking parents are total abstainers until some serious change or physical revolution takes place in their organism; then, if alcohol is used, they become impulsive drinkers of the most imbecile type, drinking usually to death. Other descendants of alcoholic ancestors are delusional fanatics in their conceptions of the drink disease and their theories of its remedies.

It may be stated as a rule that the children of alcoholic parents are defectives, and will often use alcohol with or without any particular exposure. The exceptions to this only indicates a change in the type of degeneration. For instance, daughters of alcoholized parents show great feebleness of moral faculties and become prostitutes, hysterics and degenerates. If they fortunately escape this, they may develop in later life some of the manias which indicate their unsoundness.

In the third generation from the alcoholized parents extreme types of weakness with mental in-

capacity and physical defects appear. Statistics of the criminal and degenerate classes show a large percentage of alcoholized parents. Morel, of France, has made a table of this decline which can be stated with great certainty as showing the line of degeneration. First generation, alcoholic excesses with immoralities and degradation. Second generation, early drunkenness, manias, and general palsies, with criminality and pauperism. Third generation, sobriety, hypochondria, great feebleness and paralysis. Fourth generation, mental feebleness, idiocy and extinction.

In the examination of a large number of cases, these direct heredities of persons in this country seem not to pass beyond the second generation. The vitality becomes exhausted and early death from acute and chronic disease follows.

The general principles that obtain in these cases may be stated as follows: All children of inebriate parents inherit a defective vitality with feeble power of resistance and inability to adjust themselves to the surroundings. These conditions of weakness and degeneration diminish the power of resistance to all inflammatory disease and make narcotism from alcohol fascinating because it brings with it a feeling of strength and relief from physical and mental pain.

Often the higher moral faculties of the person are undeveloped, and the children of alcoholized

persons are born criminals without consciousness of right and wrong, and with a feeble sense of duty and obligation.

Another curious fact is that the children of alcoholized persons often show great fecundity and have large families, suggesting the oft-noted fact that just before the extinction of the race Nature makes a supreme effort to perpetuate the seed and to save it from obliteration. While these inebriates' families are often large, they rarely live through childhood, and carry into maturity defects which soon cause their extinction. Families of this kind are by no means uncommon. The general history clearly indicates degeneration, both in appearance and conduct. Tuberculosis, hysteria, eccentricity, rheumatism, and an almost endless variety of neuroses appear. Occasionally some member of these dying families will be brilliant and precocious, and start far away above his age and generation in intellectual development and achievement but die suddenly. The vast majority comprise the dying masses or as it is popularly termed "the driven-out, or crowded-out remnants of the race."

The indirect heredities are equally startling. Why one generation of sober people should intervene, and only in the third generation the defects of the grandparent appear is difficult to understand. In the figures we have mentioned the

indirect heredities will be from a third to a half of the sixty or seventy per cent of cases. In all probability some form of defects has laid dormant through one generation and breaks out in the third from the application of some exciting causes or possibly in the second generation there was an absence of these causes. Nearly all these persons who develop alcoholism in the third generation also exhibit various neurotic troubles, both of nervous system and nutrition, also a tendency to rapid exhaustion.

The following is an example: An inebriate ancestor had four children who were temperate and well. Of their children, eight out of eleven drank at different times, four of them dying from this cause, the others becoming demented or dying from intercurrent diseases. Other members of the family were neurotics and died of consumption or broke down in early life and were invalids.

In three cases under my care, there was no inebriety in the ancestors but in the grandparents on both sides there had been excessive drinking. Each of these cases had a very careful training and the inebriety did not break out until middle life. The conditions in which it developed pointed out clearly the neurotic inheritance. There is no more mystery in this than the transmission of physical defects from one generation to another or the skipping of one generation and the develop-

ment of the same peculiarity in the second or third generation.

In these drug diseases there is probably transmitted some special tendency to seek relief in some way from psychical and physical pain. Alcohol gives the most positive relief of all other drugs. There is also transmitted a low degree of vitality with feeble resisting powers to pain, and defective control. The person suffering from nerve or mental pain is unable to bear discomfort and becomes possessed with the impulse to secure relief at all peril. There is also, no doubt, transmitted some latent predisposition to hyperaesthesia and exhaustion of the nerve centers which provoke morbid impulses to overcome them.

NEURASTHENIA AND OTHER CAUSES.

Next to heredity as an active cause in inebriety, states of exhaustion and neurasthenia are most prominent. The use of drugs, particularly alcohol, is far more impulsive and precipitate in this country than elsewhere. No doubt this is due to the intensity of living, the continuous excitement and rapid change in life and living occupying nearly every moment of the time, drawing constantly on the energies of the brain and body without healthy periods of rest. To this is added the consequent neglect of the healthy normal functions of the body. As a result neurasthenia, cere-

brasthenia, and other profound neuroses lower the vitality of the body and produce a condition of mental pain and suffering for which narcotic drugs are most grateful. Often these conditions of exhaustion begin in early life and are intensified by educational training and bad conditions of living. The overworked and those who have a large burden of cares and exacting duties, and who neglect to live in accord with the requirements of their life, soon exhaust their vitalities and become early victims. They become drug-takers, finding most ready relief in "bitters" and remedies containing alcohols, and soon abandon these for the various compounds of strong liquors.

There are others who become neurotic from bad surroundings, suffer from shocks, both physical and mental, and have stages of extreme depression in which alcohol is a grateful remedy.

The perturbations and changes of puberty are often fatal periods for the development of this predisposition. The disasters and storms of later life have the same effect.

The failures of nutrition, conditions of starvation, with anemia and insomnia, are all active causes.

There are a number of persons in every community who are constitutionally sensitive to their surroundings. They seem to reflect the company they are associated with as well as the hygienic

conditions they live in, and are subject to every fluctuation of both mental and physical conditions of life. Such persons are intemperate or temperate according to the presence of temptation or absence of it.

Inebriates of this class are called contagious inebriates.

Where the causations are clearly physical, they early become chronic and develop serious disease. Such persons are usually neurotics of the hyperesthetic, emotional class. They often possess genius but are impulsive, unreasoning and credulous, accepting the conclusions of the present without doubt or question, and also seem to be governed entirely by present impressions. In company with drinking men they imitate them. With abstainers, they are abstinent, and never seem to realize that they cannot do as others do without suffering. Many of this class are wanting in culture and training. Often they come from indulgent family circles where every wish has been gratified. In other circles where they have been isolated, and seldom come in contact with new persons and conditions of life, they become mere imitators, and do not seem to be able to adapt themselves to any new conditions but are molded by the surroundings entirely. Such persons are often described as "sowing wild oats" at this time,

and from bitter experience acquire certain predispositions which are fatal through all after life.

Parents and guardians are more responsible for this condition than the victims themselves. Young men and women with this pliable contagious mentality require more than school and home training. They need to be under the control and direction of robust and controlling minds for a long time.

As inebriates such persons early become demented and fall into pauperism and petty crimes, rarely becoming criminals except of the lowest type.

As patients, nothing but a revolution of surroundings and conditions of living will be of any advantage. They are subject to every new method of treatment, and become restored and pose as examples of cure from every condition and method of treatment. Then they relapse as quickly, and seem so thoroughly identified with the surroundings that it is difficult to classify them.

Types of the two classes are apparent in the following examples:

A——, the only son of an excellent clergyman, was brought up without the slightest control, and every whim was gratified. In college he fell in with drinking companions, and drank to great excess. Later, as a merchant, he drank in company, and wherever he went seemed to follow the habits

and practices of those he was associated with. He was converted frequently, signed the pledge on many occasions, went to several asylums, came away restored—only to relapse when brought in contact with drinking company. Finally, at thirty years of age, he was sentenced to prison as an accessory to murder. He is there at present, and is a most reputable prisoner, allowed great liberties, and is an active man in his place.

The exact surroundings and prison discipline have brought him to a higher standard of living than he has had before. When his sentence is finished he will be employed in the prison, and probably will live a useful, temperate life.

Example No. 2 is that of a farmer's son, brought up in the interior, isolated, and seldom coming in contact with other persons. At twenty he procured a situation in a large city, and soon became an inebriate, and drifted from place to place, having no individuality—simply following every influence which is brought to bear on him. Finally, ten years later, he became a servant of a vigorous man who realized his flaccid character, and treated him with great severity, forcing him to live in correct surroundings and away from bad company. He remained here many years and was a temperate, valuable man. Then his employer died, and in another situation he became a drinker and soon relapsed and died.

Both of these cases are types of a class of persons who in certain surroundings could be made useful citizens, and, acting under the control and dictation of others, might be free from all use of drink.

CHAPTER II.

DIPSOMANIA.

Dipsomania, as its name implies, is an insane thirst or craze for alcohol. This disease is not very common, and frequently appears without premonition. Such persons have used spirits in moderation or at intervals, rarely to stupor, and are considered temperate. Suddenly, without apparent cause, they will be possessed of an insane desire to procure spirits and drink to stupor. On recovery after an interval the mania comes on again, and another period of narcotism follows. This continues several days until complete exhaustion, gastritis, and delirium supervenes. Then a long, irregular period of rigid abstinence follows.

This differs widely from the periodical drinker in coming on suddenly and possessing the body like a veritable mania in which no other thought or motive exists except to procure spirits.

It is an insanity of the impulsive type, and has a distinct beginning, progress, and termination; and is certain to end in recovery. Such persons are dangerous when opposed but harmless when permitted to use spirits. Delirium tremens is not often associated with this although some cases

have been called *delirium tremens*. The impetuosity of the impulse and its overmastery of the mind and body is illustrated in many striking cases.

In one instance a man chopped off his hand for the purpose of procuring spirits as a medicine for the shock.

During the Civil War, a sutler's wagon with a barrel of whiskey was broken down between the lines within easy range of the sharpshooters on both sides. The certainty of instant death did not deter men on both sides from attempting to reach the barrel to procure spirits. After a number of men had been killed a cannon was brought up to destroy the barrel.

Men have been known to deed away their property for spirits under this impulse. Some famous trials have followed from acts committed during this period. A noted statesman had dipsomaniac impulses which were controlled by placing him in a cell for forty-eight hours. Others have been given spirits to stupor until the impulse died away. Many of these cases become opium-eaters or have died from the effects of narcotic drugs given to check the impulse. When the craze subsides a period of extreme exhaustion follows, without delusions or hallucinations; the mind seems to be clear again. Some authors think that this condition is more common among women than men. In my

experience it is of shorter duration and more easily checked in women. In some of these cases where the impulse is forcibly restrained by drugs it breaks out again with greater force than ever. Active treatment should be continued for some time after the subsidence of the impulse. There is associated with this, loss of appetite, excessive perspiration, increased heart's action and slightly raised temperature of the body. Insomnia and intense muscular and mental activity are also common symptoms.

These attacks usually follow each other at irregular intervals, depending upon unknown causes, but no doubt due to some central irritation and exhaustion. All periodic drinkers are not dipsomaniacs, and very few inebriates can be classed under this head. Many of these persons go to the insane asylums before the paroxysm subsides, and afterward are very clamorous to be released, claiming that they have been unjustly confined. The following is an example: A lawyer supposed to be temperate, though he had occasionally used spirits in company and at banquets, suddenly developed this impulse following a period of intense excitement. He wandered about the streets, drinking at all times and places in the most maniacal way, giving no reason for his conduct, simply saying that he must drink. He was forcibly restrained, and developed maniacal violence, and was

taken to an insane asylum. He recovered, was discharged, and commenced action for false imprisonment. Two years after, following a political campaign during which he was abstinent, the same impulse came on, lasting about a week, during which time he was continually stupid or wildly delirious, having no other thought on his mind but drink continuously. He eventually became insane, and died in an asylum. Physicians who treat cases in prisons notice the outbreak of this impulse among the inmates, often manifest in a dazed, delirious condition, with continuous talk of drink and effort to procure it in some form.

Such cases have done themselves injury for the purpose of getting into the hospital, hoping to procure spirits as a medicine. They are often confined in a strait-jacket during these periods, and it is often a difficult question to decide whether to restrain them or to permit this impulse to be gratified.

DELIRIUM TREMENS.

Much confusion exists concerning delirium tremens. In reality the term should be applied to persons who have delirium associated with muscular trembling, and hallucinations and delusions. Many cases of delusions without muscular disturbance are cases of alcoholic delirium of short duration; and when not overtreated, recover with-

out serious sequelæ. In delirium tremens there appears to be profound exhaustion and irritation of all the nerve centers, affecting both the sensory and motor centers of the body. It is always associated with neurites of the nerves of the extremities, and seems to be a complex poison case in which both the poisons of alcohol and the toxins formed in the system are combined. It usually follows a prolonged period of excessive use of spirits, particularly where the person has neglected the nutrition of the body and has been subjected to great strain, both mental and physical, with exhaustion. The onset is marked by hallucinations and delusions with failure of muscular co-ordination. Sometimes symptoms of acute neuritis precede the attack, marked by shooting pains, numbness, prickling sensations and formication. The muscular control of the hands and extremities will be enfeebled, and more spirits will be taken to counteract these effects, which are often ascribed to other than the real causes. Then insomnia, exaltation and profuse perspiration will come on. For all these physical conditions more spirits will be taken. Sounds will be heard and double objects will appear to the vision. These will soon develop into hallucinations and delusions which become more and more fixed. The muscular agitation will increase, and the mind will become alarmed at the apparent reality of the horror of

the situation. These cases are usually self-limited, and when treated with eliminatives and controlled, will recover in ten days or two weeks. The hallucinations and delusions gradually pass away, the muscular trembling and agitation going first. The serious danger in these cases is over-medication, both from overfeeding and excessive use of drugs.

Alcoholic delirium begins with slight defects of reason and sensory changes growing gradually into certain fixed conditions, without muscular disturbance or much digestive changes. It usually comes on from prolonged use of spirits, associated with excitement. It often occurs among persons who are overfed, gourmands and idlers, and in underfed, anemic persons. Frequently the continuous use of wines brings on this condition, particularly champagne, the brain being seemingly unable to recover from the continuous irritation and depression which follows. It may be stated in a general way that beer and wine are more active in the causation of alcoholic delirium than whiskey or brandy.

There are different forms of delirium in which delusions seem to be prominent, the senses often remaining partially intact, the delusions having reference to outside matters and possessing the brain to the exclusion of all other thoughts. There are milder stages of the same condition which are amenable to treatment, and are self-limited. The

delusions may remain a very long time, even after recovery and long abstinence. They indicate, without doubt, some lesion of the brain which is not restored by the removal of the active cause.

Many of these cases become paranoiacs and show mental disturbances for the remainder of their active lives. Others recover and seem but little changed.

Experience shows that the presence of delirium, either in pronounced delirium tremens or the lighter forms, is most serious in its effects on the brain, recovery rarely taking place without leaving entailments and defects that are noticeable in all after life. Even slight attacks of delirium have been followed by changes of character and conduct that grew to serious proportions later.

There can be no doubt that the tendency to a recurrence of these conditions is greatly increased after the first attack. Hallucinations and delusions are more likely to occur than before. Sometimes an old delusion entertained in a former attack reappears again with greater intensity. Hallucinations also come on again of the same character as before.

The pathological condition is one of poisoning and local degeneration of cells and perversion of cell force, and often indicates profound changes both functional and organic. It is always well to take into consideration the possibility of the com-

plication of syphilis in these cases. It undoubtedly modifies the form and duration of the delirium. In all cases the damage which accrues from these two poisons should never be minimized. In medico-legal cases it is safe to assume that the fact of having had delirium from alcohol is positive evidence of mental impairment.

No case presents a uniform class of symptoms except in some very general particulars. Wide variations will constantly appear. In some instances defects of sight will be most prominent; all the other symptoms will be negative. In others, hallucinations of hearing will be the leading symptom. Special delusions of snakes and grotesque objects are not always present and may be only transient. Some persons have grandiose delusions. Others suffer from fears of unseen disasters. One man was alarmed lest the house should fall upon him. Another, that an earthquake would swallow him up. A third, that he would be struck by lightning or destroyed in a hurricane. Sometimes the delusions refer to business matters or to social events, to family and friends or to politics or religion. They are usually transient but sometimes take on permanent forms which influence the mind ever after.

It is difficult to differentiate many of these cases from well-known forms of insanity, and it is justifiable for the physician to treat them as such,

using practically the same means and measures, only recognizing the poison causes as most prominent. Some of these cases have convulsions after a prolonged period of intoxication which resemble epilepsy, and are called alcoholic epilepsy. They have many of the features of a true epilepsy, only the duration is shorter, and rarely any stupor follows. Local paralyses are very common after these conditions, and great depression of spirits amounting in some cases to melancholia.

The suicidal cases of alcoholism undoubtedly occur after these convulsive attacks. In many instances homicides have occurred where the patient was opposed or where some delusion of injury existed and a feeling of revenge followed. The melancholia which follows these convulsive attacks is often associated with intense activity of certain ideas or delusional conceptions. It is in this condition that crime may be committed. Some wrong or supposed injury of the past will suddenly break out into great activity or perhaps a suicidal impulse which has occurred long ago will become prominent again.

Hallucinations of the senses rarely occur. The disturbances are mostly confined to delusions. Many of these impulses and false beliefs pass away by active treatment, and seemingly depend upon some disordered state of digestion or condition of exhaustion.

Convulsions following excess of alcohol always leave a serious entailment on the brain and nervous system which is manifest in various physical and mental defects. In some cases these convulsions increase and become veritable epilepsies of the classic type. If it can be ascertained that it was purely of alcoholic origin, the prognosis and treatment will vary from that of traumatic epilepsy. A few cases have been reported of convulsions following the use of opium, but in all probability some latent condition of the system favoring this state had existed before the drug was taken. Absinthe and "bitters" composed of strong alcoholic extracts when taken in excess have produced convulsive conditions which differ from the ordinary alcoholic epilepsies. There is more delirium present and intense physical and mental depression, ending in maniacal states; hence the use of these forms of spirits is more dangerous.

Magnan found in 100 cases of mania 40 which had used these alcoholic *liqueurs*. He described a form of mania due to this cause. In this country this is rare, and when absinthe is taken the symptoms are more of the melancholic type.

OTHER CAUSES.

The general impression is that bad surroundings and company are the most frequent causes of the drug habits. This is not sustained by a study

of cases. It is found that most cases have a range of causes farther back, and that surroundings and company are only incidental and associate conditions. Persons who use spirits suffer from palsies of the moral brain, and are not disturbed by low company and bad surroundings. The action of spirits creates a tolerance and liking for bad company and surroundings. This gives the impression of being the real cause—in reality it is only the effect. It may be the first cause among those predisposed and with feeble personality; it then acts as an exciting influence, but in most cases it is secondary.

In a large proportion of cases certain predisposing and favoring conditions are present. Of these heredity explains the largest number. In a study of many thousand cases over 60 per cent are found to have inebriate ancestors. In 40 per cent of these, both parents have used spirits. In 15 or 20 per cent the grandparents on both sides were spirit takers. In the remaining number are cases in which one of the parents or grandparents have drank.

Injury and disease are found to be the next largest factors in the causation. Then comes dietetic disturbances and exhaustion, both muscular and mental as early causes. Beyond this there is a certain unknown field of causes which includes almost every condition of obscure strain

and drain. Of the hereditary causes the facts are apparent in any general observation. What probably is transmitted is a predisposition to seek relief from some condition of exhaustion or defective vitality. Also there is no doubt a low degree of vital force with feeble power of restoration often manifest at puberty, which calls for spirits. Later in life under any conditions of strain the same sense-fatigue appears calling for help. In some instances this predisposition is manifest in taste enjoyment. Both the odors and flavors of spirits are agreeable and sought for. Many persons have this inheritance, which is not developed into spirit-taking.

Often inherited cases show general marks of defect, both mentally and physically, which are apparent from general observation. Atavism or the skipping of one or two generations of this inheritance is not uncommon. Such cases usually break out suddenly without any tangible or prominent causes, and become so precipitate and pronounced as to suggest a far-off inheritance. They are usually incurable, developing other neuroses or dying early from some concurrent disease.

These cases of heredity are all noted for the profound degeneracy which follows from the use of alcohol even in small quantities. Dr. Kerr believed that there was more mental derangement, a stronger tendency to delirium and delusional

states in inherited cases than in others. This has been confirmed by French observers. Magnan wrote that the inherited cases suffered from convulsions and convulsive disturbances. This is sustained by observations in this country.

I have found inherited cases more liable to take intercurrent diseases and to suffer from ordinary inflammations and to have a greater mortality. It is evident that such cases are more serious and require longer treatment and are more likely to have complications.

INJURIES AS CAUSES.

The next general group of causes which seem to follow from diseases and injuries are less prominent and seldom observed. Of these, physical injuries will be found prominent, such as concussions of the brain and cord, blows on the head or sudden physical shocks overwhelming the nervous system, followed by profound reaction. Alterations of nutrition frequently follow these states and also profound exhaustion for which spirits give relief. Blows on the head have frequently been followed by dipsomania and periodical inebriety. Shocks and mental perturbations seem to develop delusional states after spirits have been used. Some of these cases have become noted in literature. A prominent physician was thrown from a carriage, striking on his head, receiving

a simple scalp wound. Soon after he developed inebriety of a dipsomaniac character, which ended in his death in an asylum. A chaplain in the Civil War was injured by a shell and soon after became a continuous drunkard, dying later, having caused a great deal of distress among his friends. In both these cases the causes were unknown, and the injury was not supposed to have any influence in the drunkenness which followed. Peripheral irritation has been noted as a cause in some cases. Tapeworms have excited inebriety. Their removal was followed by total abstinence. The irritation from prolonged lactation or in dysmenorrhœa, amenorrhœa, and disturbances of the genital organs has been followed by the drink craze.

PREVIOUS DISEASES AS CAUSES.

Previous diseases are active causes. Some conditions of exhaustion follow, or defects of the nervous system which call for relief. Probably states of neurasthenia and cerebrasthenia are present. Intermittent and malarious fevers frequently precede excessive use of spirits. Attacks of acute rheumatism, diseases of the skin, and renal disturbances precede the drink craze. Dietetic diseases are often associated as causes owing to the intimate association between the nutritive functions and the nervous system. Practically any disease influencing the nutritive functions is fol-

lowed by exhaustion of which inebriety is the natural sequence. Irregularity of life and living is followed by the same condition. Sudden excitement and exhaustion, intense mental activity from violent emotions, are all pregnant causes. These and other general conditions of debility are to be sought for in a study of the early causes. It is not so clear how surroundings unhealthy and abnormal act in this way, but undoubtedly they have a strong influence by lowering the vital forces and creating an abnormal impulse for relief.

Some very interesting studies have been made on the effects of winds and the elevations above the sea-level. Cases have been noted where persons living at the sea-level could not resist the temptation of drink, but going to the mountains several thousand feet above the sea-level they were total abstainers without effort. Persons living in these high levels and drinking excessively have been able to abstain by going down to the sea-level. High, dry winds and moist, damp winds, apparently have the same influence, either exciting the drink craze or depressing it.

Certain sections of the country, particularly river bottoms, are noted for their large number of drinking people, while adjoining towns on higher levels show but very few people of this class. It is difficult to account for these conditions, but probably some state of exhaustion is encouraged in

these different conditions of living which is manifest in the drink craze.

It is a disputed question how far adversity is an exciting cause of the drink habit. A number of cases are reported where inebriety seemed to follow directly from conditions of adversity. In all probability in most of these cases some predisposing conditions existed which were roused into activity by the depression of adversity and other states.

Sun and heat strokes are very often early causes of this condition. Common instances are those overcome by the heat who are given spirits by some officious friend, and become comatose. They are then taken to the station as intoxicated, and later are found dead, the sunstroke not having been recognized. Many of these cases become delirious after a glass or more of spirits, and are called "crazy drunk." They resist arrest and are frequently hit on the head by a policeman's club, and later are found dead in the cell, and the examination reveals cerebral hemorrhage. The history of the case is that of simply insolation and delirium from the brandy given, and the hemorrhage is the direct result of the blow by the policeman's club. The real cause is not ascertained.

It is always dangerous to administer spirits to one found comatose on the street. Heat apoplexies are very intimately associated as causes,

and are followed by inebriety. Beyond this there are innumerable exciting and predisposing conditions, not only incident to our civilization but to the tremendous activities and strains common to every active life.

PATHOLOGY.

The general pathology of these conditions is that of cell-poisoning and nerve exhaustion. These conditions, with infinite variations and complications affecting every organ of the body, are present in all cases. Recent examinations have shown degenerations of nerve tissue and fibrinous proliferation with thickening of the walls of the heart and arteries.

Both the liver and kidneys suffer from fatty degenerations.

Local hemorrhages in the brain are more or less common, followed by cutting off of certain areas from activity, and resulting in local palsies.

The direct effect of alcohol has been summed up by Dr. Pavy in the following statements:

First, it impoverishes the blood by diminished oxidization and retarded circulation.

Second, it destroys the blood corpuscles and lessens their oxygen-carrying properties.

Third, it produces vaso-motor paralysis and impaired reflex action.

Numerous experiments of the action of alcohol

on animals have brought out many curious facts of the forms of degeneration which follow, and the statement has been made by eminent authorities that alcohol in the system is one of the most dangerous, corroding substances known.

TREATMENT.

The treatment of inebriety will depend very largely on the causes, both predisposing and contributing. When these are ascertained accurately, the indications of what to do will be clear. Thus, if it is apparent that inebriety depends on irritation from reflex action, the removal of this cause is the first essential. If it is the result of shock or injury favorable conditions must be sought for to lessen the effects of these. If dietetic and nutritional diseases and sexual irritations are present and have preceded the drink craze, they will require attention. If the drink craze is only a symptom of organic disease or another phase of some form of insanity, the treatment will also be different. If contagion of company and surroundings are active causes or states of exhaustion with excessive drains and strains, all these require special, appropriate remedies.

Only general principles can be laid down in the matter of treatment as each case must be a law to itself. In one, the effects of alcohol are very prominent; in the other, alcohol has simply

developed some states of degeneration. Thus, excessive use of spirits is a symptom of general paralysis, and not the disease itself. In another case, the craze for liquor is a symptom of mania or delusional melancholia; in another epileptoid conditions manifest themselves in impulsive drink crazes; in a third senile dementia develops the drink craze.

The removal of spirits can always be done at once with safety. There is no danger of any exhaustion from sudden withdrawal.

Frequently this is followed by other symptoms not noticed before and marked by the use of alcohol. The most common example is that of tuberculosis, which appears and goes on with great activity when the alcohol is removed. The acute symptoms seemingly have been masked while the spirits were taken. These are the cases which develop acute pneumonia and die in a few hours. A post-mortem shows extensive cavities and tuberculous deposits which have not been noticed. The supposed shock from the removal of alcohol is largely a mental condition fostered by the fears of the person. No successful treatment can be carried out while the spirits are being used. No specific drugs can overcome the effects of alcohol when given with it.

Many combinations can be used to produce a disgust for spirits, simply producing another spe-

cies of intoxication which is followed by nausea and discomfort. Opium and many of the narcotics will effectually control the drink craze by rendering the patient comfortable and indifferent to all other means of relief. The desire for a more perfect state of feeling and removal of physical and psychical pain is controlled by these drugs, and alcohol is abandoned.

The modern quack treatment is very largely a recognition of this principle of substitution, giving drugs and using measures which chemically and physiologically remove the desire for spirits. This is not curative in any sense; it is simply drug restraint, and masking of symptoms which break out with greater force when the restraint is removed.

The most important treatment is a change of surroundings and conditions of living. This enables the patient to adapt himself to new states with greater ease. Going away to a sanitarium or asylum with a distinct purpose and having changed surroundings, diet, and methods of living, prepares the way for the removal of spirits and restoration. This cannot be done at home except in special instances where the conditions and mental occupation can be concentrated along new lines of life and living.

The first consideration is the withdrawal of alcohol and an effort to eliminate its effects upon

the system. There is always associated with this, states of exhaustion and irritation which call for appropriate remedies.

If the case is a periodical drinker, the drink attack will require special treatment. This can often be overcome by saturated infusions of quassia bark in doses of two ounces given every one or two hours until the drink impulse subsides. Then free evacuation of the bowels by sulphate of magnesia or any other salt which is most convenient, and a warm bath. Following this, rest in bed with hot nutrients, of which milk is the most valuable.

On the return of the paroxysm, the same treatment with the addition of fifty grains of bromide of sodium will generally suffice. The paroxysm subsiding, a period of tonic treatment must follow. The tonics to be used here will vary largely with the patient. Usually some form of arsenic given continuously for a long time is the best and most effectual remedy.

If the paroxysm returns at stated intervals its approach can be anticipated and often prevented by large doses of nitrate of strychnia given a short time before its return or on the first intimation of this appearance. This remedy can be given alone or combined with phosphoric acid.

If the drink period is uncertain in duration and liable to return at unexpected times, great care

should be given to the diet and regularity of living. Turkish baths at intervals, followed by prolonged rest, are very useful.

On the advent of the states of excitement which have preceded the drink craze some mild narcotics, such as valerian, asafetida, hops, and others of this class, are very useful.

If there is a malarious history, some form of cinchona or quinine may be given until the physiological effects are noted. Sometimes quinine can be given for a long time with excellent effects, and without its poison action.

Where there is a history of any specific trouble, arsenic and potassium iodid are the chief remedies, which may be supplemented by mercury according to the conditions present. It is always safe to give mercury. The iodid may be given in tonic doses for a long time.

Bitter barks and iron preparations, while very useful and valuable medicines, cannot be given for any length of time with advantage. The usual effects of these drugs are to stimulate the appetite, producing indigestion and nutrient disturbances which seriously diminish the results sought for.

The next most important remedy is baths. These will depend very largely on the patient, his habits, and present condition. If a gourmand suffering from dyspepsia, a Turkish bath and massage may be given with profit every day for the

first two weeks, then lengthened out to one every two or three days. If such a bath is not convenient, an ordinary tub bath with warm water and free rubbing will take the place. Under all circumstances massage and sponging should be given every day, if nothing more can be had. Saline cathartics, both carbonated and otherwise, are very valuable, particularly for their action on the skin and kidneys.

The use of narcotics will vary largely with the conditions present. Opium is a very effectual remedy but dangerous in the possibility of creating an addiction. Under all circumstances the patient should not know the name or character of the drugs given. If narcotics are used they should be given early in the evening so that their effects may encourage natural sleep and thus obviate the necessity of large doses. Experience shows that one grain of opium in the forenoon is required to produce steadiness of the nervous system, whereas at night one-half a grain will produce more prominent effects.

Many cases have delusions of drug-reliance, believing they cannot recover unless using drugs very often. This class must be treated with placebos and exact methods of administration and strict accountability as to time and place when taken. This serves to impress the mental value of the drug, which is always essential.

Patients undergoing treatment should be encouraged to rest as much as possible in bed or reclining on a cot or chair. The system requires continuous rest and quietness. This can best be secured by having a fixed time each day to go to their rooms to rest. Baths can be taken at night with the best results. In the morning they are also good but should rarely be given in the middle of the day.

It is not helpful to discuss symptoms or talk with the patient to any length about his drink experience. There is always a tendency, which is morbid, to revert to these scenes and to recall the pleasurable and exciting conditions which were present. They should be taught to forget these states and to regard them with disgust and regret, and all recurrence to them should be associated with more positive declarations never to repeat or to live them over again.

One effect of apomorphia, ipecac, antimony, and other emetics by producing intense nausea, is to break up the recollection of the past and to impress the memory of spirits with disgust. This is very effectual in some cases, and often can be applied with good effect. Thus, in one case, a man who had abstained, constantly recurred to the pleasurable incidents of his drink period, and while asserting that he would never drink again, retained the most pleasing recollections of the effects of

alcohol. He was persuaded to drink again; given apomorphia, which was followed by intense nausea and vomiting with profound relaxation; the result of which was the entire disappearance of all pleasing thoughts of the action of spirits. This was followed by the insistence of the statement that he could not drink again. Later another experiment was tried to prove it with the same result. The idea of inability to drink became fixed from this point, and he remained temperate many years to his death. This treatment is not of general application, and is full of danger.

The revulsive effects of an emetic not unfrequently produce a shock to the nervous system, and may be the starting point for very serious diseases. The use of alcohol and the conditions of debility which preceded it may have formed unknown states of disease and degeneration which may easily be excited and concentrated into some organized form by the revulsive effects of emetics. Some of the disastrous consequences following the quack methods used indiscriminately are no doubt due to this cause.

In the history of 100 cases which had taken the Keeley and other methods of cure, 10 died from general paresis, 21 from imbecility and dementia, 30 died from acute pneumonia, and the remainder died from various diseases associated with palsy, mania and profound exhaustion. It

would be dangerous to give emetic remedies to one suffering from a fatty heart or atheromatous arteries or to persons suffering from prolonged dyspepsia and nutrient disturbances.

Combinations of strychnia given indiscriminately are also of danger. The stimulant action in some cases is so pronounced as to cause irritation with extreme exhaustion. The danger comes largely from the fact that the actual condition present is unknown, and the possibility of increasing some trouble is certain in many cases.

That strychnin has a specific effect other than in a general way is by no means certain. If used in mild cases of the drug habit which have come from ordinary exhaustion and neglect of the hygienic rules of living, its effects are very marked, but in other cases where the causes are farther back, and the drinking is only a symptom, its value is questionable. In periodic and convulsive cases it is sometimes a marked sedative and takes the place of spirits most effectually but its effects seem to be lost after two or three weeks, and its value depends upon its alternate use.

The treatment of the continuous drinker involves the same principles, only a different application of them. In one who is accustomed to use spirits daily some substitute is required after their removal. This may be found in strychnin, phosphate of sodium, quinin, and preparations of

cinchona bark. To these may be added some of the milder narcotics, of which the bromids and the vegetable narcotics are the most valuable. Occasionally opium or its alkaloids will be found valuable for sleep at night. Care should be taken not to continue them long or to allow the patient to know what he is taking. Some of the coal-tar derivatives can be used with good effect, and these with vigorous massage and bathing comprise the most practical measures.

Tinctures should be avoided because of the alcohol which they contain. Very slight quantities of alcohol, although concealed by bitter drugs, are often very effectual substitutes for spirits, hence specific remedies for the cure are composed of alcohol. While using these specifics, they leave no desire for spirits; in reality they are taking spirits, only concealed. It is safe to say that all the remedies on the market promising to cure such cases in a brief time contain either alcohol or opium. Many of the most popular tonics of the day, so highly praised and largely sold, depend for their virtue on one or both of these drugs.

It is possible to treat these cases at home in the early stages but only with the fullest co-operation of the patient and his most earnest effort to follow out the directions of his physician. Later, after a long period of addiction, it is doubtful if

any good results will follow except from a total change of surroundings and conditions of living. Many patients need coercion at first and absolute restraint, making it impossible to do otherwise than to follow the dictum of the physician. This can be done in asylums by actual force in locked rooms or in private homes with the services of a skilled attendant. In all cases there should be a distinct, clear recognition of the objects to be sought and the condition present. To coerce and confine a periodic inebriate during the free interval of his drinking paroxysm is a mistake and increases the sources of irritation. When the attack comes on it is a tonic and of value.

In the constant drinker alternate confinement and liberty is most helpful. The effort should be to constantly appeal to the will to make an effort to avoid dangers and put some restraint upon himself, and at the same time to diminish all temptation as far as possible. To give a patient a narcotic which will restrain his drink impulses, and then give him liberty and urge him to show his strength is not a safe or commendable plan to inspire confidence and rouse up a feeling of hopefulness that he can succeed. The question of restraint and liberty is like other problems in medicine, to be applied according to the condition of the patient. To give equal liberty to all or to

keep all under strict surveillance are two extremes which are not followed by good results.

In a large institution where personal discrimination cannot be easily made, certain general rules can be applied requiring of each one **strict** obedience to certain regulations which are beneficial to all. In the treatment, all methods of the administration of medicines, with diets, and habits of military exactness should be required; all irregularities should be avoided.

In private treatment the same is essential. Medicines should be given at the exact moment every day. Exercise and baths at the exact time. This creates obligation, and is stimulating to the mind.

It is clearly impossible to expect any results from two or four weeks' treatment by any conceivable method or plan. The degenerations and injuries following and associated with the use of spirits cannot be repaired in that time. No treatment should be for less than from six months to a year. Patients do not need to remain in an asylum during this time but should have the control and care of the medical attendant.

A certain number of periodic drinkers are able to work during the free, sober interval, and on the return of the paroxysm should go under treatment in an asylum or with the family physician.

Others after a few months' residence in an asylum go under the care of the family physician at home or in some favorable conditions in the country. These cases often do well.

PROGNOSIS.

The prognosis of these cases is generally favorable. A large number are restored; some of them permanently, as experience of years proves. Others relapse when exposed to temptation and are worn out by exhaustion and strains. The permanent cure of these cases no doubt depends on some physiological change in the brain and nervous system, which may come on spontaneously or be cultivated and brought about by exact conditions of hygienic living with medical care and training.

All cases can be benefited by asylum treatment and the treatment by specialists along lines of exact medication, but the permanency of the restoration depends on many complex and largely unknown factors. A great deal can be done in the early stages in personal private treatment by the use of tonics and saline drugs and other means adapted to the peculiarities of the case. More can be accomplished in special asylums with special surroundings and appliances, where brain and nerve rest and mental and physical training

towards the ideal standard of health may be carried on.

Public asylums to support and to care for the large class of chronic cases are a necessity which will be practically recognized in the very near future.

A large proportion of these cases could be made self-sustaining in workhouse hospitals in the country, and would be able to do a good work under the espionage and care of others. Some of this class would be permanently restored and go back to active life. Others would need hospital care all their life. All these cases require medical treatment, not so much drugs or specific plans of treatment but the scientific adaptation of means to control and direct their disordered impulses.

The private treatment of these cases at home in the early stages is thoroughly practical, and very often successful as in any other disease. The early recognition of the drink impulse as a symptom as well as a cause of disease will suggest the means and measures for its practical treatment. When this condition is recognized and acted upon there will be fewer chronic cases and prevention will take the place of curative treatment.

It may be safely said that all use of spirits to states of intoxication or continuously to stupor indicates disease and diseased conditions for which

medical measures are demanded. The patient's judgment of himself is worthless. His conduct should govern the measures used. The failure of legal and moral methods point out the necessity for a new medical study and application for both prevention and cure.

CHAPTER III.

OPIUM INEBRIETY.

Within a comparatively recent period the use of opium and its alkaloids come into great prominence. There is now a well ascertained disease called "opium inebriety" which has an origin, development and termination distinctly defined. There are many reasons for believing that this disease is rapidly increasing, especially in large cities and in circles where there is great mental activity. This is confirmed by the quantity of opium and morphin called for beyond the legitimate wants of medicine. Careful estimates indicate that fully fifty per cent of the morphin and opium is consumed in some unknown way. This will be understood when it is known that a large number of such cases use opium secretly.

Comparative estimates make the number of opium cases in this country to be over a hundred thousand. While it is very difficult to determine the exact number, there can be no doubt that this is not an exaggerated statement. Many of these cases die from other diseases, and the fact of opium-taking is only discovered after death. Up to the present time very few studies of these cases have appeared.

Usually the symptoms have all dated from some definite point after the opium addiction began, and the history of the case from this point is more or less obscure until chronic stages appear. Hence great uncertainty and doubt exists concerning the exact condition and pathology of such cases.

A careful clinical study and grouping of the history of many opium cases points out a neurotic diathesis or condition of brain and nerve defect which predisposes to the development of this disease. There is an opium diathesis or special inherited tendency to use opium or other narcotics. Such persons exhibit an unstable brain condition which calls for relief from every condition of debility and fatigue. If opium is given, the effects are so fascinating that its use is ever after indulged in.

This particular tendency may be latent and may depend on certain conditions of life and surroundings or the application of some peculiar exciting causes. The opium-user has often this neurotic element in his history. His ancestors may have suffered from severe nerve injuries, cell starvation, faulty nutrition, auto-intoxications, brain strains, with excessive drains or nerve force. The children following will have decided nerve defects which may find in opium the most pleasing nepenthe, and its use will ever afterward be followed. Next to the inherited diathesis comes the acquired de-

fects. These may begin with diseases in early childhood which leave retarded growth and perverted nerve activities. States of defective nutrition and bad surroundings leave similar defects. Following these are a great variety of complex strains and drains which leave the nervous system defective. States of brain and nerve instability with low vitality and tendency to exhaustion and hypersensitiveness to pain from every degree of disturbance with feeble powers of restoration, are all characteristic early symptoms of the opium disease.

The narcotism from opium is very grateful to most of these neurotics, and is tolerated in large doses from the beginning. A dose of morphia, calming the excitement and giving complete rest, is a physiological revelation which profoundly impresses the organism. This hypersensitiveness to pain and delusional impulse to avoid it at all hazards is the basis of all opium disease. After opium has been used a few times this increases rapidly, particularly to avoid pain, and a species of mania follows possessing the mind thoroughly and demanding relief from all discomfort. Along with this comes the delusion that this is only a temporary condition which can be stopped at will at any time. This continues to the very last, notwithstanding all the failures and repeated efforts to abstain from opium the idea is dominant that it

can be done by the will of the person. This morbid impulse for opium is a veritable mania, and soon becomes a symptom of some brain degeneration which increases, involving one by one the higher brain centers until imbecility and idiocy is reached.

The opium-taker is on the road to imbecility. Low states of delusional mania may appear, but the gradual weakening and profound dissolution of all the higher functions is inevitable. In some cases the march is rapid and progressive along well-defined tracts; in others it is slow, with halts and intervals and apparent retrograde movement. Periods of abstinence may occur followed by relapses and more precipitate decline. Delusions of strength and of power of concealment and cunning to deceive and cover up his real condition are always prominent. Consciousness of right and wrong and veracity in matters pertaining to himself disappear early, and the only motive which remains with any persistency is to procure opium and to avoid pain. Many of these cases are very complex. The degeneration often seems to be local while other faculties remain the same.

Some of these cases exhibit a degree of unimpaired vigor along certain accustomed lines, while others show profound deterioration. Many of these cases show hypersensitiveness to their own condition, but seem to be impotent to change it. They are in a continual conflict with the desire to

abandon the drug, and failures to take the first step, particularly where it is followed with the least suffering. They show great anxiety to recover, but will not make any effort. These defects of will are all significant of psychical change and degeneration. Dr. Kerr calls these cases narco-maniacs in whom the morbid impulse for relief is ever present. These cases are always serious, and are always associated with psychopathic conditions and states of life and living which require the clearest wisdom to overcome.

In the treatment the central fact of removing the drug is of small importance compared with the removal of the causes and the conditions which have favored this impulse. As in the alcoholic, the removal of the active, exciting cause, spirits, is only a small part of the real treatment. The conditions which preceded the use of opium must be studied, and the defects which have followed from its use must be ascertained. Then the question of treatment can be determined.

In the removal of the drug many clinicians have laid down elaborate plans and defended them with earnestness on the supposition that they were finally curative. This is not sustained by more careful studies. Some of the general facts which must be recognized may be grouped as follows: Where an opium diathesis or predisposition to obtain relief from all states of pain and exhaustion

has come down from the past generation, the withdrawal of opium should be gradual, and the treatment should have reference to constitutional changes. In such cases the surroundings should be regulated with care and exactness. The patient should commence a military regime of life and living and the opium should be withdrawn, covering a period of many days and weeks, depending upon the sensitiveness of the person. With this should be associated careful diet, regular baths, and exercise, and mental diversion. When the amount has been reduced to a minimum other mild narcotics may be given and the opium withdrawn. Of these narcotics, a great variety may be chosen from—such as valerian, hyoscyamus, lupulin, bull-nettle, and others of this class, using the one which seems to be the most positive in its effects. Baths should be increased and massage should be taken every day. Often hot liquid foods, as hot milk, beef extracts, and some malted food preparations, can be used with advantage. Mineral waters, particularly soda waters, are of great advantage to neutralize the acidity of the stomach.

The withdrawal symptoms, of which diarrhea is the most prominent, can be easily overcome by baths, slight astringents and rest on the back. Hot fomentations over the bowels give local relief from the tenesmus. The gastric irritation is most quickly relieved by soda preparations, and long periods

of rest. The withdrawal symptoms of exhaustion, irritation and general relaxation are usually of short duration, and not at all severe in these cases where the opium has been gradually withdrawn. After the acuteness of the symptoms has subsided a tonic of strychnia is very serviceable. Beginning with one-thirtieth of a grain four times a day and increasing this up to every two or three hours if it can be borne by the patient without toxic symptoms, then decrease the frequency of the dose to two or three times a day for several weeks. In addition to this, preparations of cinchona bark and iron can be used with advantage. Phosphate of sodium is also a favorite remedy given in ten-grain doses four times a day for several weeks.

The after treatment will vary largely with the person and his surroundings, but should always include baths, carefully selected nutritious food combined with exercise and all possible conditions favoring nerve and brain rest. In cases where opium-taking has come from brain strains and drains in a previously healthy person, the treatment will vary. The opium should be removed rapidly, and other drugs substituted at once. The narcotism from opium must be broken up and its peculiarly fascinating effects overcome.

Dr. Parrish found the best results to follow from the use of ipecac in those cases where the person had taken opium for some form of pain

the result of injury or nutritional disturbance. Hewas accustomed to reduce the opium rapidly and to associate its use with nauseating doses of ipecac. The revulsive action and relaxation which followed soon broke up the fascination from the narcotism of opium. This was followed by large doses of quinin and tincture of lupulin or other mild narcotics. The withdrawal symptoms were very greatly lessened by the mental disgust and dread of opium. Baths were used daily and soda preparations in the form of carbonated waters were given.

Dr. Mattison treated all these cases, from whatever cause, with bromide of sodium, giving increasing doses and withdrawing the opium within a day or two. Bromism followed in these cases and was considered of less importance and more easily overcome than the relaxation from opium withdrawal. In these cases pain would be absent and the patient would recover after an uncertain period of stupor and somnolence suffering only from profound mental and physical exhaustion. This plan of treatment has not been found valuable only in exceptional cases.

Innumerable plans have been devised and carried out, and a great variety of drugs have been urged as specifics, but none of them have stood the test of experience as applicable to all cases.

In my experience the condition of the patient and his inherited psychosis determines the course

of treatment. The question most commonly discussed by both physician and patient is the sudden or gradual withdrawal of the opium. To the patient the sudden withdrawal presents horrors which he wishes to avoid. To the physician the gradual withdrawal means complications and complexities of methods and plans which are to be avoided if possible. The lengthening out of the withdrawal symptoms to weeks, and even months, is not followed by good results. Each case should be a law to itself. For example, a person coming from a degenerate family, who has had an early period of alcoholic addiction, followed by the use of opium, has still farther broken up the nutrition of the body and perverted all healthy mental and physical functional activities, and is now taking large quantities of opium and alternating it with spirits at irregular intervals, requires a special and peculiar treatment.

First, his surroundings and conditions of living must be methodical and exact. Spirits must be abandoned at once, and the opium withdrawn gradually for the first week, dropping down to a minimum dose and keeping him on this amount until his system becomes accustomed to this change. Sometimes this requires two or three weeks, giving uniform doses every day without change; then a diminution for several days and another long halt in which the same amount is given regularly.

When the amount has been reduced to a grain of opium or a quarter of a grain of morphia in twenty-four hours substitution may begin. Large doses of bromide of sodium may be given every two hours until two hundred grains are taken, then stop. If this is not well borne, some vegetable narcotic may be given in large doses. If the withdrawal symptoms are prominent, tincture of opium may be substituted, not to exceed one or two doses. The patient in the meantime must be kept in a reclining position and given hot baths and massage. Strychnia may be given in large doses either by the mouth or hypodermically.

The after-treatment will consist of tonics, salines, baths and long-continued rest. Such persons should continue treatment for months, and possibly years in changed surroundings and different conditions of living. Where the needle has been used, a new complication arises, and to overcome this the ingenuity of the physician will be taxed seriously. Sometimes a continuation of the needle with water injections serves a very good purpose, and permits the abandonment of the drug with very slight after symptoms. In other cases the substitution of apormorphia, with its peculiar depressing and nauseating effect, soon breaks up the needle addiction. In a second example, where the morphia addiction is uncomplicated with spirits, and seems to have grown up from some state

of exhaustion and neuralgia or disturbance of the nerve and sense centers, the treatment must differ. There is often in this a large mental element which must be considered and treated. The patient must not only be in exact surroundings but mental diversion must be provided, the mind must be diverted as far as possible, and sometimes concentrated on elaborate plans of treatment. Placeboes every hour, military exactness of rest and times of eating, massage and baths must be required. The morphia should be cut down at once, and if the withdrawal symptoms are at all severe, mild narcotics may be substituted.

Every measure should appeal to the mind to rouse up confidence and to create new hope. Frequently the morphia can be withdrawn in a few days and the usual tonics of strychnia, quinin, iron and arsenic can be given in varying forms, associated with placeboes and mental medicines. The ingenuity of the physician will be taxed to the utmost to vary these drugs and keep the confidence of the patient. Oftentimes exercise even up to the point of occupation is valuable. The diet and digestion should be considered with great care, and no withdrawal symptoms should be allowed to progress very far, even at the expense of recurring again to the drug for a single dose. If the morphia is taken by the needle, the mental symptoms can

be treated for a long time with success. In these cases the appearance of unknown local disturbances which have been masked by the drug are to be anticipated and treated. The success of such a case depends largely upon psychical treatment, the efficiency of nursing and the exactness of surroundings. In a third example where morphia has been used to lessen the pain of organic diseases or to relieve the infirmities of age, the treatment should also vary.

It will be a disputed question whether the removal of morphia can be practically and successfully carried out in cases of paresis, locomotor ataxia, carcinoma or organic diseases of the kidneys and liver. If it is found advisable to do this, the treatment in the removal of morphia should be gradual and tentative, depending upon the condition present, and the irritation which seems to follow. Great care should be used in substituting other drugs, particularly when their addiction is likely to be followed with more serious results. Not unfrequently the removal of morphia is very easily accomplished in these cases. The irritation and relaxation following may be slight, but the possibility of relapse is almost certain. Alterative tonics should be used from the start, of which mercury and arsenic and the various forms of phosphorous are most excellent. In old

age the removal of morphia can be quickly accomplished by substituting some of the milder vegetable narcotics. Here constitutional treatment is essential, with great attention to the hygienic conditions of diet and surroundings. These three examples include a large number of opium and morphia takers.

Recently a class of professional and brain workers has come into prominence where morphia is taken for its stimulant effect as well as to quiet nerve and brain fatigue. These cases should be treated heroically; the opium should be removed by the use of substitutes, and active medication follow. States of neurasthenia and cerebraesthesia always present should be treated on general principles. All such persons should have asylum or sanitarium care for months, followed by rest in the country for an equally long time. Many of them must give up all brain labor and abandon all occupation associated with mental strain. The general treatment is the same—baths for elimination, food and tonics for building up, rest and diversion for training them out of their old life and living. The opium disease is curable in a large number of instances, but never by specific drugs or mechanical plans of treatment, and never by simply withdrawing the drug, no matter how painless or perfect. The brain and nervous system has suffered some

profound shock and change which cannot be overcome except by long care and medicinal measures.

CHAPTER IV.

COCAIN AND OTHER DRUG ADDICTIONS.

The cocain addiction has been called the third great scourge of the world,—alcohol and opium addictions being the first and second. The most remarkable fact is that only a small part of the cocain imported and used is known to go into legitimate channels. An inquiry in Philadelphia showed that sixty per cent of the cocain was sold and used in unknown ways. It is extremely difficult to know how far its addiction has extended. The frequency of the cases is becoming more and more apparent, particularly in the large centers. Usually the cocain taker has had a previous experience with morphin and spirits, and finds the cocain a great improvement over the two. From this drug he gets mental exhilaration and physical satisfaction without any of the depressions which follow the use of the other drugs. It is noted that emaciation and rapid decline of both the physical and mental activities are very marked in the opium case which becomes a cocain-taker. A pleasing state of mental exaltation and volubility follows its use. The mind seems to run on with great

rapidity, the thoughts flow with confused medley without point of conclusion, interlaced and combined with all sorts of ideas, fears and credulities. This mental condition seems to be without conception of time or present condition, passing from all grades of hallucinations and delusions of suspicion, credulity and good humor to states of imbecility and sleep. In some instances great assertiveness with indecisiveness of thought follow in a confusing medley.

The principal delusion characteristic in most cases is that of parasitic infection principally of insects crawling over the skin, marked by itching and uncomfortable feelings. Delusions of persecution, not only to himself but to others, often rouse indignation and efforts to correct them. Oftentimes it is self-accusation, and is followed by crime, generally suicide to escape from his pursuers. During all this time there is a reasoning mania with the pleasing imagination that invests objects near and far away with personal interests.

In some instances intense depression follows alternated with transient exaltation. His voice and manner give evidence of his mental condition. The soft, persuasive tones, and the smiling, affable appearance and supreme consciousness of his great vigor and perfect strength is characteristic. He believes his condition is exaggerated by his friends and that he does not need to make any exertion

himself, that the effects of the drug are not dangerous but rather helpful, enabling him to do what would be impossible to do otherwise. His personal appearance is greatly changed; anemia, glassy staring eye; nervous, trembling walk, which becomes more feeble as the effects of the drug wear off. His digestion is impaired, and often convulsions and partial unconsciousness of short duration follow. Attacks of sudden melancholia may end in suicide or some violent act. The effect of cocain on the mind is remarkable in destroying the moral sense first. All consciousness of right and wrong, of duty and obligation and pride of personal appearance disappear early. He may seem physically to be very little different except anemia and general nervousness. Mentally he will be optimistic and extremely voluble but morally he will be utterly depraved, irresponsible and unreliable to the last degree. These conditions rapidly merge into imbecility, suicide or acute mania. The delusions take on an imaginative character often very interesting psychologically as indicating the dominance of certain brain sections and functions.

In one case under my care literary delusions manifest in continuous writing of poetry occupied nearly all the time of the patient while awake. In another, plans of military campaigns were the absorbing topic of his thoughts. In a third,

schemes for breaking up the poverty of the masses were his constant dream.

These cases will vary largely according to the condition which has preceded the opium addiction. If they have been alcoholics, more manias and deliriums will follow. If they have been opium-takers, less mental activity and more of functional delusions will appear. If they have taken up cocain for some local condition and irritation and have been neurasthenics before the addiction, the mental perversion will be very prominent. A large number of cases have found the use of cocain at first medicinal for the relief of catarrhal and local inflammations. From this point they have continued it for its general effects.

Two conditions follow in all these cases—one, that of exaltation of the intellectual faculties—the other lowering of the senses and functional activity. Both may occur together, but in one the senses and functional activities may be more seriously affected at first. In the other the intellectual faculties show abnormalities from the beginning.

The effects of cocain-taking usually end in death or serious mental disturbances within one or two years. Often the use of cocain is abandoned for morphin, then taken up years afterward. The prognosis is always grave when the addiction is continued any length of time. It is not difficult

to remove the drug and secure temporary restoration, but unless this is followed by the most radical change of life and living with the avoidance of every source of exhaustion and every possible peril and danger, relapse is to be expected.

The general treatment must begin with isolation and removal of all exciting causes in a sanitarium or asylum where the surroundings are military and exact. In every case special localized means are essential to meet the various conditions present. The drug can be removed at once. Sometimes narcotics may be used for substitutes for a day or more but usually they are of little value. Sharp elimination through the skin, kidneys, and bowels is the first indication. The continuous activity of the skin by hot air, warm and medicated baths, are required daily for a long time. Anemia, hyperemia, and insomnia, each requires special medication, of which foods and tonics are usually sufficient. Preparations of iron and bark are valuable for a short time. Arsenic appears to be the best of all the mineral tonics, and should be given many weeks. Acids are also very excellent. The phosphates and preparations of soda and magnesia are equally valuable. Strychnia does not seem to be well borne and cannot be used in some instances, nux vomica being preferable, and its use may be continued for a long time. Of foods, meats should be used sparingly at first;

later, their use can be increased. A diet of eggs, milk and fruit is the best. The patient should remain in bed during the first week of active treatment. Massage may be given for an hour every day during this time. Later he may be taken out to walk a few moments every day in the open air. Exercise and massage depend for their value largely upon the adaptability to the condition of the case at the time. In a brain-worker, less exercise is required than in a muscle-worker or one who is in the open air much of the time. In an over-fed, plethoric person, exercise is better borne and followed by greater relief than in thin, spare persons.

Often the patient should remain in bed two or three weeks, particularly where the reaction symptoms are those of depression and great prostration. Daily baths should be continued for many weeks together with a rigid living and diet, which should be insisted upon for a much longer period.

Many of these cases require an entire change of surroundings and removal of local exciting causes. The tendency to drug-taking should be overcome by reliance on hygienic measures and physical training, together with careful diet. The restoration of the disordered mind is to be expected only from prolonged rest and diversion of all functional activities.

The cocain-taker can rarely be treated at home

with success. Like other cases of drug addiction, a careful study must be made of the causes, both exciting and predisposing, which lead up to this condition. To this add a careful history of the present addiction and the injuries which have resulted from the use of the drug, then the therapeutic indications will be clear. Whenever cocain is used for its medicinal effects care should be taken to watch its effects and to conceal its character from the patient. But few cases are on record where it has been given in surgical operations that it was followed by an addiction. Most commonly it is found in catarrhal remedies, and often is the basis of the successful proprietary drug. It is also given by unprincipled and thoughtless persons for the relief of opium and alcohol addictions, with the result of producing more serious difficulties than it seeks to remove.

It is doubtful if the fascination of the drug is ever fully dispelled. The patient may abstain for years from its use and from the slightest exciting cause the impression of its relief will come back again. Sometimes this is overcome by the good judgment of the person, but where the opportunity is present and the judgment is weak it is taken again with readiness. Some cases have fully recovered, but the disability which follows its use has continued in varying degree the rest of the life.

CHLOROFORM

The use of chloroform as a drug addiction is not common. Nearly all cases follow the use of alcohol or opium. The delirium and insomnia from the above drugs are relieved by the inhalation of chloroform. Frequently chloroform is taken to break up a drink craze, and later the effects are so pleasant that it is used in the place of alcohol or opium. In many cases chloroform is given for some acute pain or distressing condition of insomnia or some state of exhaustion and irritation. The relief is so prompt and complete that it is repeated. The odor is also attractive, and the dreamy oblivion which follows is very pleasing.

All chloroform cases are periodical at first, and rarely become continuous, and yet in some instances it has been used from the first every night. This does not last long, as mania and stages of melancholy soon follow.

In one case a man would provide a large bottle of chloroform, arrange all his business in advance, and at a certain time commence using it continuously until the chloroform was gone. Then he would recover and abstain for a long period; then anticipate and provide for another attack. He seemed to have power to abstain for a certain

length of time, then gave way to the impulse abjectly. Chloroform-takers are secretive and rarely acknowledge the addiction. After a time they suffer from gastric troubles, bad circulation, emaciation, trembling, extreme paleness, and great susceptibility to chills with depression. Neuritis is also common, and chronic cases frequently die from tetanic conditions. Sudden syncope is also common and fatal. The fascination for this drug and its effects is an insane impulse which is almost insurmountable. This impulse for chloroform comes on often without premonition. A favorable opportunity to procure it secretly or the odor of the drug seems to provoke the desire at once. After the impulse dies out, the efforts for recovery are equally earnest and energetic. No one can be more earnest and seem to use means to prevent relapse, and yet the slightest opportunity to procure chloroform and conceal it is always taken advantage of.

In the treatment this element of insanity must be considered as well as the extreme liability to relapse at the most unexpected moment. Death may come suddenly at any time. It is possible to overcome this impulse by morphia and to change the case to a morphinomania, but the fascination of chloroform is never forgotten.

In the treatment the complete removal of the drug is necessary, with military care and control

Physical exercise and baths, tonics, alteratives and concentrated food are the general measures useful. When the person is not accustomed to other narcotics many premonitory symptoms of the insane impulse appear. Usually irritative melancholias, with restlessness and depression which is not affected by advice or surroundings. Strychnin seems to increase these morbid sensations in some instances; in others it is very useful, particularly when given in small doses and often. Chloral is not a good remedy. The stimulation which it produces is followed by greater depression.

Bromids in large doses may break up the impulse, but leave greater depression after the first effects are passed. Opium is an excellent remedy, but must be concealed to prevent the patient from continuing its use. After hot baths and massage, ten drops of deodorized tincture of opium in syrup of wild cherry or wintergreen may be given every two hours until sleep follows. After the patient wakes, an active mineral cathartic will aid in relieving the nervous condition. Hot acid drinks are soothing, and may be given very often in some cases. Recovery from the paroxysm of stupor may be accelerated by hot salt baths and sponging and the internal use of some mineral acid. Coffee infusion can be given with great advantage. After the paroxysm has passed lupulin and quinin can be used with excellent results. Arsenate of iron

should be given as a general tonic. Iodide of potassium with the fluid extract of conium is also very valuable as a continuous remedy.

The chloroform-taker should be under the constant care of the physician in an asylum; if at home, faithful attendance, with constant watching and careful regulation of all the surroundings and modes of living.

In some cases the irritative depression which seemingly provokes the desire for chloroform is traceable to chemical changes of nutrition.

The good results following from active catharsis and elimination by the bowels seem to point to ptomaine compounds in the body acting as exciting causes. The value of an eliminative treatment brings additional confirmation of the theory that some state of auto-intoxication may both precede and follow the chloroform impulse. Chloroform-takers can never restrict themselves any length of time to the moderate use of the drug. The inhalation may be irregular as to time and free interval, but the desire for relief is increased with each repetition.

Often with this chronicity appears increased secretiveness and greater efforts to conceal it. In a few cases radical changes of life and living with active constitutional remedies have been followed by restoration. The use of alcohol seems to be dangerous, increasing the degeneration and

rousing up mental symptoms not noticed before.

Chloroform should rarely be used in cases of hysteria or of any convulsive neurosis, particularly where it is not followed by any unpleasant effects. When it occurs in middle or later life the degenerations are very serious, and the cases are early fatal.

In early life the problem is less difficult. In all the cases there are serious defects of both the physical and moral brain which require prolonged treatment and the skillful use of means applied with military exactness.

CHLORALISM

Chloralism is a form of drug addiction which appears to be more common among women. As in all other forms of drug addiction some previous neurosis will be found to precede the first use of chloral. The sleep which it produces is so profound and followed by no unpleasant sensations that it is repeated as often as occasion calls for it.

Chloral can be taken secretly for a long time without any suspicion of its use. After a time the effect of its use appears in disordered digestion, the irregular heart's action, and the increase of nervousness and muscular unsteadiness. In persons past middle life a form of cardiac asthma with a tendency to delirium appears. These and many other obscure symptoms finally merge into

delirium and death. Not unfrequently cases of delirium tremens have been found in which the drug taken was chloral and not spirits. The usual trembling and delusions of persecution and hallucinations of sight and loathsome animals are present. Some observers have noticed that chloral-takers have peculiar blueness of the extremities with venous congestion; also marked listlessness and lack of energy as prominent symptoms of this addiction. Choralism is confined largely to the more prosperous classes of society. This drug can be disguised in many ways and used as a fascinating sleep producer. The amount varies from twenty to two hundred grains a day. Often considerable time will elapse before toxic symptoms appear; then, suddenly extreme prostration with delirium comes on, ending fatally. Sudden palsies, with vaso-motor disturbances, heart failure, and low stages of delirium, should suggest chloralism, particularly if alcohol, opium, cocain and chloroform can be excluded. The statement of the patient concerning his condition is of no value. Where the history indicated extreme neuralgia and insomnia and a sudden passing away of these conditions, the assumption that chloral is used is possible. When it is established that chloral addiction is present, the patient should be isolated at once and placed under positive restraint and the drug withdrawn. Alcohol,

opium, chloroform, ether and cocain are all contraindicated as substitutes. Vegetable narcotics, such as hyoscyamus, valerian, lupulin, bull nettle, and others of this class may be given as substitutes and withdrawn at the earliest moment. Then comes the usual tonic treatment of nux vomica, strychnin and arsenic. The latter seems to be the best borne, and can be given a very long time. Cinchona and iron are also excellent drugs. The insomnia and neuralgia with deranged nutrition which follow the withdrawal should be treated with baths, foods, and careful hygienic management of all the functional activities of the body. When chloral is used in connection with other drugs, profound exhaustion often follows its abandonment. Sudden, unexpected death occurring during the use of the drug is common. Many secret remedies for neurotic troubles contain chloral, and decided symptoms of chloralism often appear. Chloralism has been mistaken for general paralysis, neurasthenia, and hyperemia, as well as several affections of the cord. Many opium and alcohol cases are found to be complicated with chloral addiction, and their recovery is more difficult.

ETHER

The use of ether as a beverage has so far only been noted in certain distinct sections of the country. In the north of Ireland it has attained

such prominence as to become the subject of legislation and medical study. In certain sections of Wisconsin and Pennsylvania the sale of cheap sulphuric ether has assumed some prominence. Many persons use it regularly. The effect of the ether is rapid exhilaration, with tumultuous satisfaction and joy; then a variable period of stupor and sleep, and recovery. When this is used often digestion suffers and conditions of hyperesthesia and anesthesia follow. Sometimes the excited stage is a form of acute mania with violent symptoms. On recovery depression and melancholia follow. Fortunately no general addiction has been so far noted. The few cases which have appeared have had alcohol or opium addiction before, and the use of ether was a more pleasant addiction than the other. The mind in all such cases is more or less impaired and recovery will depend upon the use of the various means found useful in other cases of addiction.

TEA HABIT

Tea inebriety is one of the milder addictions that only occasionally comes under medical notice. It is a well-recognized fact clinically that a number of persons seriously injure themselves by the excessive use of tea, the symptoms of which are usually gastric derangement, neuralgias, muscular twitchings and trembling, great irri-

tability, with hyperexcitability. In some instances delusions of fear and hallucinations of voices at night, bad dreams, painful insomnia, are common. Many single women, past middle life are clearly tea inebriates. Often some form of delirium breaks out or some obscure neuralgic pain which is attributed to many very serious diseases appears. Many of these cases are unconscious of the effects of excessive tea-drinking, and attribute the symptoms to other causes. The general symptoms may be described by the terms neurasthenia, cerebrasthenia, and anemia. The removal of the tea and active hygienic treatment is usually sufficient. Mineral tonics and bitter barks and acid drinks are the usual remedies. Some of these cases end fatally from acute exhaustion and heart failure; others seem to suffer from profound starvation, food not being assimilated and poisons gathering in the system become sources of acute inflammation. Many obscure neurotic cases will be found to follow the action of the active principle of tea, affecting the cerebral centers.

COFFEE ADDICTION

Coffee addiction belongs to the same class of irritant narcotics, and when taken in excess produces semi-delirium and great prostration. Coffee-drinkers sometimes under great excitement develop delusional states, usually of the grandiose

character, and rarely violent or destructive. Suspicions of wrong and injustice may occur. These alternate with extravagant credulity. In the treatment arsenic and strychnia are valuable tonics. Elimination by baths and catharsis and nerve and brain rest are especially valuable. Both tea and coffee can become dangerous addictions where used by neurotics, and often require medical aid and counsel to be relieved. Frequently they precede the use of opium and alcohol, and are very significant addictions.

ARSENIC

The use of arsenic as a stimulant has been noted in many sections of the country. In the reported cases its effects were those of a pleasing tonic. The skin soon becomes pearly and white, the eyes take on a brilliant hue, and the face becomes plump and a general air of indifference is manifested. There is a certain tolerance to this drug in such cases, and apparent exhilaration which follow from its use. In the cases which have been observed fifteen to twenty-five grain a day were used, and after a year or so death followed suddenly from apparent heart failure. In others slight degrees of dementia preceded the fatal issue. In all cases the perspiration gave out a strong metallic odor. Fortunately these cases are un-

common, and seem so far to be confined to women and neurotics of the better classes.

EAU DE COLOGNE

Another form of addiction has been noticed and described at some length, that of the use of Cologne water. In these cases the narcotic action is simply that of alcohol, often of an inferior kind, concealed by the odor of the perfume. It is probable that the odor is quite as much of a fascination as the spirit itself. The conditions which follow are substantially those of delirium and melancholia, with obscure and complex nerve disorders, which readily disappear on the removal of the cause. These cases are all alcoholics, and are likely to develop delirium and serious nutrient degenerations. The external use of these odoriferous spirits by drug neurotics is always unsafe, and open to suspicion. When taken internally its treatment and care are along such lines as those of alcohol.

GINGER

Jamaica ginger is another one of those alcoholic preparations which have become popular in certain sections. They are all forms of cheap alcohol concealed with solutions of ginger, the latter being only a mild stimulant and irritant, the former having the same effect as other spirits. Several cases have occurred where its use was

decided to be harmless and in no way responsible for the mental disturbance and irregular conduct following. This is incorrect. The use of Jamaica ginger usually containing from ten to forty per cent. of alcohol is precisely like that of other alcohols, and should be treated in the same way, and is certainly followed by the same symptoms, only less prominently.

PARALDEHYD

Paraldehyd has been used by neurotics to some extent, and may properly be called one of the addictions. Excessive prostration and delirium are the common symptoms which follow. The removal of the drug and the causes which impel its use are the obvious means required for the treatment.

GELSEMIUM

Gelsemium is another drug which has been used as a tonic and narcotic. The common symptoms are stupor, emaciation, listlessness, delusions and hallucinations, followed by an early death. This drug is used first for the relief of pain, and its effects are so pleasing that its use is continued.

These are only the more common of the drugs whose poisonous use has attracted medical attention. They may be called drug addictions for the reason that they often begin with and without the prescription of a physician, and are taken secretly.

When the derangement which follows from their use becomes prominent the medical man is called. Unfortunately many of these cases have reached chronic stages before this period, and the result is that the treatment is difficult and uncertain. Many of them require asylum treatment; others may be treated at home, but all need exact means and measures for restoration and relief. The delusion that these unfortunates have full possession of their will to abstain or continue is fast passing away. We are now able to recognize in most of these cases well-defined diseases that begin and follow a progressive line on to death or restoration. While the treatment is much more positive through the cooperation of the patient, it is only by the use of physical means and measures that any permanent results can be expected.

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