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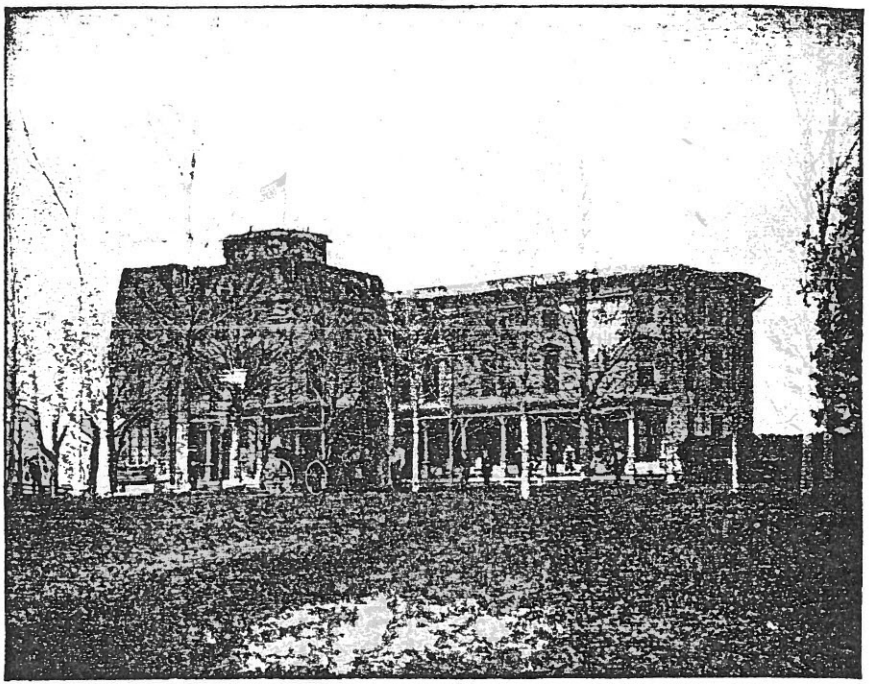

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THE PATHOLOGIC IMPULSE TO DRINK — ALCOHOL AS A SECONDARY FACTOR IN DIPSOMANIA.*

By William Lee Howard, M.D., Baltimore, Md.

It is to be understood at the commencement that in the present paper the conditions I consider are not to be confounded with those of the common drunkard, the chronic alcoholic, or those found existing in individuals with defective moral sense or continuous unstable mental equilibrium. I shall study in this paper the unfortunate individuals suffering from a pathologic impulse to drink regardless of all effects or results — an impulse considered by many alienists a periodic insanity.

The primary condition of the dipsomaniac is not caused by alcohol. The starting-point is a pathologic one; the impulse, the insatiate desire to drink, is due to this pathologic obsession — this paroxysm which has come over an otherwise lucid mind. A clinical picture of one of these dipsomaniacs will enable us to better understand the morbid states which we are

* Read before the American Association for the Study and Cure of Inebriety.

to study. A man, with wife and children, holding a responsible position, upright and honest in his daily life, shunning coarse companions and avoiding drinking places, educated, refined, and domestic in his habits, who suddenly shows a disposition the very antithesis of his daily life, and after a short interval of abnormal existence returns to his quondam habits, offers an interesting psychologic and pathologic study. The sudden desire, the irresistible impulse, to drink enormous quantities of liquor, concomitant with palsy of the will and moral obmutescence, is rightly called dipsomania.

A few days before the irresistible, savage, maddening, overpowering impulse to drink exerts its full force, the individual is restless, irritable, suffers from insomnia, or, should he sleep, is disturbed by mild but uncomfortable dreams. Slight muscular tremors may be noticed, and every act is accompanied by an uncertain or impulsive movement, physical as well as mental, showing that though up to this time no alcohol has been taken, and none perhaps for months or years, there exists a slight erethism of the cortex. The struggle, the painful demand for alcohol, the determination to control the crying yearning for some relief from this horrible restlessness, the knowledge of the fact that the higher centers are so disturbed as to make the carrying out of daily duties impossible, are too fearful for even a person perfectly conscious of the ultimate disastrous results to stand against. One drink only will he take to relieve the distressing restlessness. He steps into a saloon, an act which a few days ago he would have considered degrading. The one drink is taken, after which there does not appear to be any limit to the amount of alcohol he is capable of consuming. His thirst is savage, uncontrollable, unlimited. Now hours pass as minutes. The individual becomes voluble, boasting, egotistic, and self-contented; he delivers philippics and enters into polemical discussion with his barroom companions, considering himself an oracle, the center of every movement. The amount of alcohol imbibed does not affect

the motor or sensory centers to any marked extent, but the higher centers are completely in abeyance. No food is taken, and as midnight comes he departs with his newly-made acquaintances to some low, disreputable, all-night hole which is like a palace to him, the parasites being his willing knights. A short doze on a dirty sofa and the morning will find him without the physical or mental energy to leave the rum hole; and humored, flattered, cajoled, and contented he will remain in this lycanthropic condition, dirty, filthy, and regardless of his personal appearance, until the nerve storm has spent all its fury. This storm, which approached with its undulations of fast-gathering tumults, its psychic murmurs, its sighing, its slow but insidious strength, finally bursts forth in all its horribleness and destructive fury, followed by rapid subsidence; leaving the hurtled flotsam, jetsam, and moral wreckage to be gathered and dispersed by an interval of normal life. The duration of the storm from its first fitful gusts to its last sigh covers a variable period — generally about three weeks. During this interval but little food is taken, and that at irregular periods. The mental condition during this period is not the one of maudlin drunkenness, not the one of violent, inhuman, tiger-like brutality seen in alcoholic frenzy and pseudo-dipsomania, but one in which the speech is tenuous, light, airy, and teeming with idle gasconade. The ideas expressed are weedy, sedgy, spumy. There seems to be only a slight clouding of the mind as regards surrounding details; the whole mental condition and attitude is in fitting with his companions and environment. He has not the drowsy, sleepy stare of the drunkard; nor does he have the appearance of being insulated in the gloomy umbrage of alcohol. Regarding his true life, his normal condition, there is a hazy, vague state of intellect if his attention is called to it; sometimes total oblivion of his duties and responsibilities. The return to his former self is comparatively rapid, and after the recrudescence he will have but a slight recollection of the length of time passed or the

places where he has been. Often close questioning and leading questions will throw a ray of light on some obscure act, but even then he is not fully convinced that the fact is not some phantasm, some dream, or idle banter of his questioner. He desires no liquor now, and has neither thought nor idea of ever wishing for a drop of alcohol. It is not the moral determination of the drunkard never to drink again, not the sickening, repulsive, abhorrent feeling of the inebriate for alcohol due to temporary excess, but a condition of psychical contentment. Such is a general outline of this pathological condition which is demonstrated by the craving for drink.

There are, naturally, many various minor phases of this condition, many clinical units, but they can all be reduced to the same psychical elements. This craze for drink must not be considered a distinct disease, but as a secondary symptomatic condition, as are other impulses in abnormal mental disturbances. Although one attack of dipsomania is generally followed by another, such is not always the case.

I have had many opportunities to study these cases throughout their course, having had them under close observation from the prodromic period to convalescence, during which no liquor in any form was given. These cases exhibit a mental disorder characterized by great depression, anxiety, and restlessness; inability to apply themselves to the simplest reading or games, an indefinable horror of some impending danger, and disco-ordinated psychic faculties. They soon become indolent and apathetic, through keeping up an incessant walk around the room and a conversation consisting mostly of lamentations regarding their inability to ever return to their business or profession. Insomnia is persistent, and anorexia so pronounced that often the taste of food will bring on an attack of vomiting. There is often spasmodic gulping down of food, and unsuccessful attempts to swallow, exhibiting an aura as characteristic as the epileptic aura. Frequently the sensation of precordial anxiety will be observed. In a day or

so comes the impulsive, uncontrollable desire for drink. Large draughts of water are taken — hot one minute and a vehement demand for cold the next. The relief is only temporary, and soon the demand for alcohol asserts itself in pleading, cursing, and argumentation, sometimes ending in a frenzy — the *delire emotif* of Morel. During this period, which will last several days, the throat is parched, the skin is hot and dry. The pulse varies from 85 to 100. Although large quantities of water are consumed, comparatively little urine is voided, and that is heavily charged with phosphates. At the height of the attack there is a passionate, desperate demand for alcohol — alcohol in any form. They plead, clamor, pray, and struggle until, exhausted, they sink into a temporary consciousness of the impotency of their will and mental demoralization. This condition lasts for a short time, when the craze for alcohol again commences. With the subsidence of the cortical irritation come great physical weakness and moral depression, or the oppression of inexpiable guilt, apparently much greater than in the cases which have succumbed to the passionate demand for alcohol. In fact, the latter cases recover their physical health in a few days; the former suffer from weakness and mental depression for some weeks after. This mental depression is probably due to a better recollection of the sad state they have been in and the fear and anxiety of future attacks (*melancolie impulsive ou anxieuse*).

The cases which yield to the impulsive demand for alcohol are little troubled by introspection, as the alcohol has paralyzed the higher centers and the memory of events is too vague and hazy to give these individuals those afflicting, dismal thoughts which cause so great apprehensiveness to the cases which go through the attacks without obtaining alcohol. The cases under strict surveillance and not allowed to have any alcohol last much longer than do those who exhaust themselves by excesses. In these latter cases the abatement of the cortical irritation takes place more rapidly. There is no demand, de-

sire, or physiologic craving for alcohol in these subjects when the nerve storm is over. Alcohol in any form is repugnant to them — a radical difference from the inebriate or drunkard. There are few, if any, symptoms of alcoholism.

Of all the phenomena of which the life of the neurotic is replete, this one of dipsomania requires conscientious study by the medical profession. It is not an isolated phenomenon, but a syndrome. Its force, fury, sudden onslaught and periodicity demonstrate that we are dealing with a mental disturbance. For the sake of humanity, science, and sociology, we should do our utmost to bring it out from the dark chaos in which it is confounded with vicious habits and drunkenness, and place it among those psychoses which the science of medicine studies and treats as mental and nervous diseases.

Too great importance has been attached to the alcohol habit in connection with dipsomania. Alcoholism never leads to true dipsomania, although alcoholism and pseudo-dipsomania are allied, and the error has arisen in confounding the latter with dipsomania. The line between the drunkard and the pseudo-dipsomaniac is not an incised one, the conditions being those of correlation. The pseudo-dipsomaniac is an intermittent drunkard. He will drink to excess whenever opportunity occurs, and at no time does he have that repugnance for or fear of alcohol which possesses the dipsomaniac during his lucid intervals. The pseudo-dipsomaniac will enjoy an opportunity to drink to excess, but ceases with the opportunity. The dipsomaniac knows no halt, no restriction; he must, he will, he does succumb to the impulse to drink to the extent of causing total oblivion of all honor, respect, and fealty due himself, and all duties, obligations, and responsibilities due others.

It was this confounding of dipsomania with pseudo-dipsomania that caused Hutcheson, Bucknill, Hack, Tuke, and others to divide dipsomania into several varieties.

That which distinguishes dipsomania from various alcoholic habits and conditions is the impulse. Its periodicity

causes Kraft-Ebing to consider it a periodical insanity, a variety of hereditary alienation. Magnan admits that the impulse is a syndrome met with in individuals with a hereditary incubus (*les syndromes de la folie des hereditaires*).

It is evident from what has been said that the victim of dipsomania is born with defective mental equilibrium; that this unstableness is a profound one, and increases from infancy to full growth, and exists throughout the life of the individual.

Rabid impulsiveness is a phenomenon demonstrating peculiar mental states. This impulsiveness may take various forms and phases, but whatever its form it diminishes organic and psychic resistance.

The aim of all scientific research is to understand cause and effect. No one individual can grasp more than a general idea of the widely diversified scientific thoughts and movements to-day. But few of us succeed in even getting a general view of the ever-changing phases of single special branches. The effective power of scientific research depends upon the subdivision of labor; the mutual dependence of any subdivision upon the others, and a harmonious and truthful relation among all. In my last paper I considered and described the condition of individuals suffering from the periodic craving for alcohol—a symptom-complex known as dipsomania. Whether we consider this hyperkinesia as a periodic insanity or as a latent unstable equilibrium of the cells of the cortex aroused by peculiar environment, fatigue, or by one of the numerous rhythms which are continually taking place in the central nervous system, or, as I believe it is sometimes, due to autointoxication, the effects and ultimate results vary but little.

Berkley,[1] Andriezen,[2] Bevan Lewis,[3] and others have given us excellent reports on the conditions existing and changes taking place in the cortical and central cells of individuals

[1] Johns Hopkins Hospital Reports, vol. vi. 1897.
[2] Brain. 1894.
[3] Text-book of Mental Diseases, p. 528.

suffering from acute and chronic alcoholism. These studies have been useful as far as they go; but what is needed is a thorough understanding of the conditions existing in the central nervous system which cause certain individuals to have an uncontrollable impulse for alcohol — the condition prior to any alcoholic indulgence. I admit that to attempt any such studies appears rather fatuous, from the obvious difficulties which arise.

There are various hypotheses, speculations, and provisional statements put forward to account for the periodic attacks of dipsomania— statements referring to heredity, environment, predisposition, the inability to control impulses, and many other vague and unsatisfactory reasons. That there is always a morbid weakness of control is evident. There is also the fact of transformed modes of nervous energy temporarily bursting the bonds of the individual's will; and the function of the brain, the mind, temporarily loses its normal mediating power. Bad social conditions, unfavorable environments, a predisposition for alcohol through heredity, faulty training, and neglect of moral education, will cause lawlessness, drunkenness, and its concomitant vices; but aside from the vexed question of heredity, we have none of these conditions existing as the cause of true dipsomania, but only as the effect during the attack. The unfortunate victims of this form of hyperkinesia are generally those whose surroundings are of the best, individuals of genial and honest natures, educated, bright, and highly intellectual; many have been the most brilliant of their time. Hence, we must seek for some inherent cause in the nervous system which produces this unfortunate rhythm in an individual otherwise normal in all his acts.

Dipsomania is a symptom of defective inhibition. Defective inhibition may show itself in multitudinous forms of impulsive acts — from slight exhibition of temper to atrocious crimes. As the majority of individuals suffering from attacks of dipsomania are those who live at a high nervous and mental

pressure — physicians, lawyers, litterateurs, and business men — exhaustion of nervous energy is frequent and often continuous, and the reserve brain power is soon used up. Exhaustion of nervous energy always lessens the inhibition. The cells of the cortex become exhausted by long and continued expenditure of energy; the individual resorts to alcohol to relieve his uneasiness, his restlessness, the result of this cell exhaustion, and which prevents him from attending to his ever-pressing duties. It is then that the defective inhibition is shown, and the uncontrollable impulse breaks the bounds of reason and judgment. What the pathologic condition of the cells is in these unfortunates is unknown. I consider it analogous to the hypothetic pathology of hysteria.[1] That there is a physiologic similitude between the mild hysteric attacks of a woman who tries to control her actions, but is not able to do so, and the impulse to drink, which the dipsomaniac is aware of, but generally tries to resist, seems evident to me.

The protoplasm of the cells of the cortex becomes used up by continued work without the necessary rest needed for recuperation, and while in this vacuolated state they are unable to function their parts; a small amount of alcohol rapidly cuts the higher centers off from the lower, and the result is a disorganized condition of the general nervous system in which the inhibitory power is lost, normal volitional potentialities reduced to mere atoms, and impulsive acts directed by the stimulation of the lower centers. Starting with such conditions, it leads one to the hypothesis that a continuance of these would result in some organic changes, or at least in such changes that each attack leaves the connection between the higher and lower centers less active, with a lessened amount of functional force in the cortical cells, all of which changes are exhibited in the force, frequency, and duration of dipsomaniacal attacks.

Some cases of dipsomania can be directly traced to the absence of early education in not correcting uncontrollable

[1] Hysteria and Allied Conditions, Preston, 1897.

impulses in early childhood, but even here we will invariably find the child has inherited a richly neurotic soil; demonstrated by uncontrollable impulsive acts. In some cases there seems to be an interruption of development in certain centers, as is demonstrated by these impulsive acts of childhood. This condition must be understood when training or correcting the child. As Donaldson[1] aptly puts it: "No amount of cultivation will give good growth where the nerve cells are few and ill nourished, but careful culture can do much where there are those with strong inherent impulses towards development."

The following case well illustrates the disastrous results following the neglect to develop the cells of the higher centers by careful and intelligent training and instruction.

A patient, aged 40, was referred to me last year by his family physician. His social position was of the best; and in his lucid intervals, which generally covered a period of four or five months, his environments were those of cultivation and refinement. During his attacks he was an individual of the type described in my last paper. In childhood he was willful, disobedient, and exhibited a temper beyond all self-control. His mother told me that so furious would he become over trivial matters that his screaming and violent actions would frequently terminate in epistaxis. In one of these outbreaks he attempted to stab his mother with a carving knife. He would drive the servants out of the house as he grew older, by his violent threats and uncontrollable temper. Ordinary mild persuasion and admonition had no effect on him, and thus he grew up with defective inhibitory power. He developed extraordinary business capacity, and rapidly rose to prominence in business matters. When about 25 years of age the defective inhibition began to show itself in dipsomaniacal attacks, which, on account of his value as a business man, were overlooked for years, until they became so frequent and prolonged as to make him useless in any capacity. His mother is a

[1] Donaldson: The Growth of the Brain: London, New York, 1896.

neurotic, and displays slight defective inhibitory powers. One sister I strongly suspect of being addicted to the morphine habit; a brother is a "ne'er-do-well," an aunt died insane, while a grandfather on his mother's side was a steady drinker.

While in this case we have a history of a neurotic soil, I believe that had his training been such as to have compelled him to control his morbid impulsiveness, or, in other words, had the early signs of his defective inhibition been recognized and corrected, we should now have a valuable member of society, instead of what his acquaintances consider a degenerate. There is no degeneracy in such cases. The condition is simply one of inherited defective inhibition, which can, in most cases, if early recognized, be greatly modified, if not corrected. As pointed out by Crandall,[1] heredity and degeneration are two totally different phenomena. One is an inheriance of tendencies or qualities possessed by the ancestors; the other is a loss of those qualities. The one produces a condition similar to that of the progenitor; the other, a condition dissimilar. The one is always transmitted; the other may be transmitted or acquired.

The victim of dipsomania, like the sexual pervert,[2] is one generally born of ancestors whose central nervous systems have been on an exhaustive strain throughout life. Many men in this country, in the last decade, have not married until they have rushed through the best portion of their life in the hurry, push, and excitement of an early business or professional career. They bequeath to their progeny the dregs of a former vital and equilibriated cell protoplasm, and the natural result is an unstable nervous mechanism which the heir is unable to adjust.

In these cases the law of heredity prevails, but between the laws which are to act and the indefinite variety of forces and circumstances upon which those laws may operate is a vast stretch of uncertainty.

[1] *Archives of Pediatrics*, December, 1897.

[2] William Lee Howard: Psychical Hermaphroditism. *Alienist and Neurologist*, April, 1897.

There is another large class of dipsomaniacs whose history shows the early disturbance of the cortical cells (in using the word cell I refer also to its appendages), during their developmental periods. These are the cases which in infancy have been given by "the old nurse" alcohol in some form. If one carefully investigates he will be surprised to learn what a large number of individuals were early quieted by doses of gin and brandy. I have one case on hand with a history of gin being given to him daily from birth up to the age of two years. I am not referring to the low, ignorant class among whom this habit is not unusual, but of a class which consent and courtesy calls intellectual. In these cases it is not surprising that we find an absence of harmony and lacunae of function rhythmically appearing when cell fatigue has exhausted all reserved force. That these conditions may exhibit it in phases of the various neuroses other than dipsomania is evident; but I am now only speaking of some of the causes of this particular symptom of defective inhibition which shows itself in the impulsive action to drink alcohol in any form and regardless of the consequences.

I have referred to the favorable social conditions generally surrounding the victims of dipsomania. It is necessary to accentuate this factor so as to bring out more distinctly the neurotic origin of this symptom-complex. As Donaldson[1] says: "The central nervous system, whatever its natural perfection, must be extremely responsive to surrounding social conditions, and thus growth processes in it be modifiable in no small degree, hence the conditions which social states imply."

Among the other causes producing this dynamic disturbance of the central nervous system is autointoxication. As this is a subject by itself I merely mention it here.

A peculiar condition sometimes met with is the coexistence of chronic alcoholism and dipsomania. Generally such cases terminate rapidly. What original inherent strength the

[1] *Op. cit.*

brain had is soon weakened by disease or tissue degeneration due to the chronic alcoholism, and a few dipsomaniacal attacks cut off the individual in early life. In these cases we generally find a true dysthymia, and the end is often by suicide. Two cases in my practise terminated in this manner last year.

In taking up the subject of prophylaxis and cure we must constantly bear in mind the somatic cycles by which many of our unconscious actions are governed. These physiologic rhythms are habits of organic activity. I believe that the long rhythms in nutrition and heat regulations of the body are factors in augmenting and aggravating the periodicity of dipsomania. Under pathologic conditions such as hypothetically exist in this psychic explosion, its intervals appear to be governed by the organic cycles, including the monthly rhythm of the female with its concomitant changes,[1] and which in this sex, at this time, is often marked by slight attacks of dipsomania.

It is evident from what has been said about the uncontrollable impulses of childhood that the prevention of these analogous attacks in adults is in the early training of the child, and a thorough understanding of the heredity of the child. When physicians and parents fully realize the meaning and ultimate disastrous results of the passionate, paroxysmal, and violent outbreaks, a veritable *faire le diable a quatre*, then will many an individual bless the day that he was compelled to control the outbreaks and by such training throughout the development stage reach manhood with a nervous system working in harmony the balance of his life, and able to adjust itself to the various circumstances and rhythms as they occur.

If we have cells controlling inhibition they are dormant in the cases where the child shows uncontrollable impulses. Education cannot cause any fundamental changes in these cells, but it can vastly strengthen them. In all functional activities a tendency to the formation of habit occurs, and it makes all

[1] Havelock Ellis: Man and Woman, London, 1894.

the difference between happiness and sorrow when by habit we rouse these dormant cells into constant activity.

The treatment of dipsomania offers such a perplexing chaos of conditions to deal with that I approach the subject with hesitancy. The result of studious, laborious, and earnest work on one of these cases may result in such complete failure as to cause the general practitioner to consider them hopeless, and often to ignore or refuse to treat them. Only a short time ago a young man came to me with pleading aspect and anxious appearance and all the other psychic and somatic appearances of an approaching attack of dipsomania. He had been to his old family physician, who gave him the sound advice not to take a drink, not realizing for a moment that the young man needed intelligent and immediate assistance to follow this advice.

The conditions existing in dipsomania are so different from those in inebriety that confinement in an institution offers many difficult problems. It is impossible in the early years of the dipsomaniac to foretell the time and frequency of an attack. The individual may go for a year or more without any symptoms of the dangerous psychic mine hidden in the soma, or give any indications when that mine will explode. The best we can do is, after getting a complete history, past and present, of the case, to educate the dormant cells, and as closely as possible correct the defective inhibition. Suggestion, with or without hypnosis, is of considerable value at this point. Everything possible must be done to prevent the exhaustion of nerve force, and efforts made to store up reserve material. The physiologic rhythms must be watched, and when we see the approach of the ebb of these rhythms the patient must be carefully guarded. The rhythm which is particularly apt to be dangerous is the daily one occurring in the afternoon about three o'clock, although there is one occurring about eight in the evening which also needs to be remembered. It is at these hours that I have my patients come to me, giving

them an hour or two rest, through suggestion, thus tiding over an anxious and perilous period, while also allowing the necessary recuperation of the cells of the central system. Success greatly depends upon aborting a few attacks. The patient feels greater confidence, sees hope ahead, strives with strengthened desires, and anxiety is lessened — all of which contributes to the ultimate psychic result needed, control over morbid impulses. It is not desirable to keep these patients restricted or confined; they require the mental work and exercise of their daily vocations, and the idea of daily treatment is to compel them to give the cells of the central system a much-needed rest, which they would not get, or be incapable of getting, without the moral and material assistance given them by one whose heart and mind is devoted to these unfortunate and much misunderstood victims of this *fin-de-siècle* period.[1] Strychnine is of great value in these cases if used in large doses and for a long period. It is surprising how tolerant these cases are to strychnine. I often give one-twentieth of a grain hypodermically every two hours during waking hours, while the restlessness, and mental irritation, and the other prominent signs of an approaching attack continue. I prefer the nitrate of strychnine, and keep my patients on it for two years or more. During an attack of dipsomania strychnine should not be given. When the normal mental condition begins to return it may be used in small doses, as the object is to keep the cerebellum as quiescent as possible; hence considerable judgment must be used at this period in giving strychnine. Under no circumstances should chloral be used at any stage in dipsomania. Chloral lessens the inhibitory power of the brain. It is scarcely necessary to more than mention the fact that all the rational methods used in functional neuroses must at one time or another be utilized as adjuncts in the treatment. The diet calls for careful supervision and judgment. The amount of proteids must be regulated, for it should not be overlooked

[1] Wm. Lee Howard: Alcoholic Maniacal Epilepsy, *Quarterly Journal of Inebriety*, July, 1897.

that an exclusive proteid diet causes the formation of excessively large quantities of soluble peptones and albumoses, which have an exciting action on the nervous system and constitutes a favorable basis for the development of the multitudinous neuroses.

There are several important and interesting medico-legal questions to be considered in dealing with uncontrollable impulses. Rigid lines should be drawn for the courts to recognize between the responsibility for acts committed by the inebriate and those committed by the dipsomaniac.

It is to be hoped that teachers, parents, and physicians will perceive in the child the basis for a useful or useless life according to the understanding of the heredity, and thus prevent an increase of uncontrollable impulse which so often leads to the distressing and ruinous neurotic disease, dipsomania.

DEMORPHINISATION.

Sollier (*La presse médicale*, April 23, 1898) uses this term to describe the symptoms which ensue when morphine is withdrawn from the morphinomaniac, and discusses the *rationale* of such symptoms. He first distinguishes between relative and absolute withdrawal, and his observations are concerned only with the former. These symptoms consist of bilious diarrhœa and vomiting, salivation, sneezing and rhinorhœa, lachrymation, profuse sweats, muscular cramps and inquietude, etc., etc. Recent writers have claimed that these symptoms are toxic, and are due to an oxidation product of morphine (oxymorphine), which is formed at the moment of withdrawal, or, according to some, to an excessive production of chrlorhydic acid under the influence of withdrawal. Sollier, however, denies that the toxic effects of these substances at all resemble withdrawal symptoms, and claims that the latter are purely physiological.— *Medical Review.*

SOME CLINICAL EXPERIENCES IN THE TREATMENT OF INEBRIETY.*

By R. W. Branthwaite, M.D., Brux., L.R.C.P. Lond., M.R.C.S. Eng., D.P.H.,

Medical Superintendent, Dalrymple Home, Rickmansworth.

I must ask you, should my deductions not tally with your ideas of the fitness of things, to give me credit for the fact that many years have elapsed, during which my sole work has been to do what the majority of you are only called upon to undertake in isolated cases, and to remember that my facilities for investigation and watching the therapeutic action of drugs are of the best, seeing that I am actually living with each case from start to finish, having the sole responsibility of good or evil results.

It is my intention to pass lightly over the obvious advantage of placing a patient under such conditions as will render it, as far as may be, impossible for him to obtain liquor during his treatment; this and other similar precautions are common sense and too well understood to merit consideration now; furthermore, the circumstances under which my patients have been placed puts the question of unsatisfactory surroundings without the pale of my experience.

A few preliminary words here are perhaps advisable as to the character of the cases coming from time to time under my observation. Conditions on admission into an institution, such as ours, varies considerably, and practically embraces all stages of chronic alcoholism. Some have just recovered suf-

* Read before the English Society for the Study and Cure of Inebriety.

ficiently for purposes of removal, from illness the result of previous excess, and having of necessity submitted to medical and nursing control, enter sober and convalescent. Others again in all intermediate conditions of comparative sobriety to the patient who is described, and justly so, as "on the borderland of Delirium Tremens." The symptoms of this latter, more acute condition, are well enough known to require but brief notice, an impaired mental condition, general restless behavior, complaints of wakeful and excited nights in company with the spirit bottle to ward off unpleasant sights and sounds, startling dreams, pale or congested face, usually bathed in sweat, injected conjunctivæ, dilated pupils, vacant anxious expression, tremor and fibrillar twitching of muscles are some of the distinctive signs, with a history of long-continued and heavy drinking.

Consideration of the clinical study of the treatment of alcoholics must be divided into (1) the management of the *acute* condition and (2) that of *subsequent treatment.* I desire especially to-day to draw attention to the *first*, and leave the *second* for future consideration; this narrows the present issue to the immediate treatment of the most advanced conditions, for it is here where the possibility of difficulty arises. The more modified cases are comparatively insignificant, would probably recover easily, and in many instances do, without the assistance of medication, withdrawal of liquor producing only a bearable amount of distress and no question of accompanying complication.

On the other hand, the man who is fairly saturated with liquor, and possibly has been so for years, whose every action depends for execution upon the evanescent stimulus of a glass of liquor, whose body and breath exudes a characteristic odor, the vital functions of whose nervous, circulatory, and renal systems are functionally or organically disorganized, this man requires much more careful dealing; it is far easier to underrate than overrate the gravity of his condition.

Given a patient of this description, what is the best method to adopt with regard to cutting off liquor as the first step towards recovery?

I have no hesitation in strongly advising a total withdrawal of liquor, under intelligent medical aid, in preference to gradual reduction. The "cutting off" of liquor gradually *sounds* very well, but *practically* is open to several disadvantages; there is continual strain and anxiety to obtain the next dose, and dissatisfaction at the absence of the desired amount of stimulation when given, a difficulty in obtaining proper sleep from uncertainty in the action of drugs, aversion to food, which usually lasts until alcohol is almost discontinued or inappreciable in amount, a general lengthening out of discomfort, loss of patience and — an important factor — postponement of desire and effort to get well as long as any alcohol is administered, no abatement of the drinker's cunning and determination to get further supplies whenever possible, a principle of great importance when treatment is carried out in private houses.

This protracted distress, mental and physical, is productive of injury at the time and in the future.

On the other hand, sudden cessation of liquor has in my hands, of late years, met with unqualified success.

As soon as the patient understands that he can get no more liquor there is mental quietude on the question; after a very few hours, instead of a determination to get liquor, there is born a desire to get rid of it, an early willingness to take food, and little difficulty in obtaining sleep. Should stimulants be indicated at any time during treatment, it is simple enough to administer them in some form other than the patient's accustomed beverage.

Questions naturally arising at this stage are:

(1) What complication may be expected to occur?

(2) What medicinal treatment is indicated to relieve distress and avert complication?

In my experience one of the most likely of possible occurrences is epileptiform seizure.

What the connection is between chronic alcoholism and true epilepsy it is difficult to satisfactorily decide, but that there is some close connection is certain, for an appreciable number of patients who have been under my charge have either a family history of epileptic taint or have themselves given birth to epileptic children. That epileptiform convulsions, irrespective of any true epileptic taint, occur continually during the course of a life of chronic inebriety, more constantly perhaps than is generally realized, is also certain. Many inebriates while disclaiming all history of fits will acknowledge to a "funny sort of faint," a bitter tongue, or passage of urine during the night, ascribing these symptoms as sufficiently accounted for in having been drunk. In a large percentage, however (averaging 15 per cent. of all cases and between 30 per cent. and 40 per cent. of the most chronic regular drinkers), there is a definite history of epileptiform convulsions. As far as can be gathered from the narrative of patients themselves these attacks have generally followed *some temporary inhibition of their accustomed quantity of liquor.*

In true epilepsy there appears to be an *ill-defined line of demarcation* between cases with no apparent cause other than hereditary history of the same condition or allied neurosis, and the more definite cases due to peripheral irritation or central organic lesion. It seems also fairly accepted that certain conditions of the blood tend to assist in the production of epileptic phenomena in those liable to such attacks. In any case, the true seat of morbid reflex excitability must be in the nerve cells themselves, and it appears certain that this augmentation may exist in the higher centers, or any part of the nervous tract to its various peripheral terminations. It is hardly to be wondered at, therefore, in chronic alcoholism, where so many favorable conditions exist, that these manifestations are common. Retention in the blood and tissues of some excrementi-

tious matters that ought, either themselves or in some altered form, to be excreted by the kidneys, offers at once an important predisposing circumstance. In the instance of a confirmed soaker knocking off his liquor there is a diminution of fluid imbibed with consequent concentration of urine and an increased activity required in kidneys that probably are, to say the least of it, functionally impaired.

Looking, however, to the nervous system and its compound elements more particularly for explanation of the epileptiform phenomena in alcoholism, it would be well to bear in mind that, as in morphia addiction, and in the customary use of any drug producing motor and sensory depression, the removal of that drug, if it has been continued for an appreciable length of time, will produce a reactionary *hyperaesthesia* and general increase of motor and reflex excitability. This principle applies very strongly to alcoholism, and if functional nervous excitability is sufficient to determine an epileptic discharge, here we have it to an intense degree both central and peripheral.

The man most liable to attack is the thick-set, full-blooded type of drinker, without being exclusively so, for I have met many instances of even attenuated patients with history of epileptiform convulsion. As for the character of the seizure I have some experience of asylum work and know what an epileptic ward is like, but I have rarely, or never, seen worse fits or of longer duration than some I treated in the early days of my present work.

Clinically, purely alcoholic epilepsy, although apparently similar in all respects to true epilepsy, differs on the one all-important point, that of absolute curability, for I have never known a single fit to occur, after total discontinuance of liquor, in those persons subject to them during drinking.

Delirium tremens during the discontinuance of liquor should be in properly treated cases unknown, provided, of course, there is no accompanying affection or injury to militate against recovery in the ordinary course. I have actually

treated in the Dalrymple Home during the last fourteen years some 500 cases of inebriety of all sorts with a large percentage of sodden beings in an advanced stage of chronic drunkenness, and during that period have only been called upon to treat *four* cases of delirium tremens.

The *first* occurred within my initial three months of residence, and with subsequent knowledge am confident could and should have been avoided. The *second* case made his entry into the gates, after traveling from the north of England, rushed up to me with a bag in each hand under the impression I was a stationmaster, and insisted that a railway accident had occurred "just down the line," giving therewith gruesome details; he was forthwith put to bed and gave us a lively week. This could hardly be called a case from "knocking off liquor." The *third* occurred in a patient who entered during heavy drinking. He was discovered the following morning to have a right and left lobar pneumonia, which went from bad to worse; the case was complicated by delirium and died within the week. This also may be excluded, for, acting under advice in consultation, his liquor was not discontinued. The *fourth* case will afford an interesting instance to emphasize the value of medication in cutting off liquor, and will be referred to again, thus leaving for future consideration two probably avoidable cases.

The remaining possible occurrences are less important, being either transitory and self-curative when liquor is withdrawn or more easily treated; for example, extensive tremor, violent and uncontrollable twitchings, persistent vomiting, gastric catarrh, and occasional tendency to collapse, or cardiac failure in persons whose tissues have undergone extensive fatty change. I separate persistent vomiting from gastric catarrh because many cases of the former occur without sufficient evidence of the latter to warrant the severity of the symptom; furthermore, in my opinion the majority of cases are primarily neurotic and due to reactionary central nervous excitability consequent on a withdrawal of a depressant.

Having arrived so far, the second question naturally arises: What therapeutic treatment is indicated to relieve distress and avert complication?

Notwithstanding the fact that medical practitioners are continually called upon to treat these cases, the text-books of even the present day are very vague, and in most instances totally ignore the importance of therapeutic agency during the period of actual withdrawal of liquor in the confirmed inebriate. When I first undertook my work at Rickmansworth, I sought vainly for some guidance from the experience of others; it required but a short period to prove to me that something more was necessary than mere inhibition of liquor and moral suasion. I found that as soon as liquor was discontinued characteristic restlessness, anxiety, and insomnia set in, with great mental and physical distress, which, in many cases, if sufficiently severe and prolonged, led to complication. Following the paramount indication, I commenced by relying chiefly on chloral to produce sleep. It was soon evident, however, that administration of chloral, to be of any value in extreme cases, required more than bold, even injudicious, usage, and in those early days, many a time, after giving the dose I considered necessary, have I waited patiently through a night to watch result or be ready for emergency.

Considering the enfeebled heart of the average inebriate, and remembering that chloral, besides lowering blood pressure, is an intrinsic cardiac poison, it is more than probable in the majority of cases full doses are inadvisable. Calling to mind also that the kidneys have long been overtaxed and may be organically or functionally impaired, the additional strain and consequent prevention of due elimination adds to the danger and makes one look upon chloral as far too dangerous a drug for common and indiscrimate usage.

Nevertheless, many cases presented themselves for treatment with these contingencies, and a decision became necessary between the risk of a large dose of chloral and other hyp-

notics not so deserving of confidence. Nerve and mental rest seemed absolutely necessary to tide over a certain period, and unless such was by some means obtained, ill effects were to be anticipated. This result was exemplified in exceptional cases where I deliberately chose to avoid chloral, and in place thereof rely on such drugs as henbane or its alkaloids, cannabis indica or paraldehyde, reaping a harvest, consequently, of results I wished most to avoid. I was gradually but surely driven to the conclusion that just the cases where nerve rest and sleep were most important to obtain often proved to be those in which contra-indication for the use of chloral was most evident. Besides all this, the effect when obtained was not of the character desired, and although producing oblivion, if given in large enough doses, the physical distress still continued. A further example of the unsatisfactory therapeutic value of chloral in sleeplessness, either partly or wholly due to peripheral pain, and anyone with experience of the condition in question cannot but realize that in cessation of alcohol, as in the case of other narcotics, the distress is mainly peripheral. Should sleep be produced by chloral, even in large doses, the patient will groan, grind his teeth and toss about; he wakes much earlier than expected, with symptoms but little relieved, the drug having merely dulled, for a time, appreciation of his peripheral trouble without actually improving the condition itself. The possibility, therefore, of complication is only minimized, just in the same way as surgical interference on a subject who is only partially under the influence of chloroform will still produce an appreciable and sometimes dangerous degree of shock.

The uncertainty of action also (in inebriates) increases the difficulty of administration, due chiefly to the tolerance alcohol gives to the action of all narcotics; in many cases moderate doses may produce sleep, whereas in others double the amount will result in excitement only, thereby increasing instead of diminishing risk of trouble. Notwithstanding the fair and

extended trial I gave to chloral as the sheet anchor of treatment, my conclusion was most definite, that given alone it not only fell short in therapeutic action but required too large a dosage to be justifiable or safe, this with some modification to be explained later in my opinion to-day.

Having arrived at that decision, it became urgently necessary to seek some other drug upon which steady reliance could be placed without the disadvantages above indicated.

Morphia could not be considered less dangerous owing to difficulty of excretion when the kidneys are in an abnormal state. Furthermore, given by the mouth, unless in very large doses, it is too slow in action and in patients with a tendency to narcomania the alternative use of hypodermic syringe, with its immediate result, is too fascinating to risk as regular treatment. Again, by diminishing secretion it increases thirst, often adds to headache, and instead of relieving nausea it may produce sickness. The strongest reason, however, for my discontinuance of its use in the treatment of simple acute alcoholism is the unreliability of result when administered in moderately large doses; the tolerance of an alcoholic again steps in, but it would hardly be safe to rely on this tolerance, for cases of idiosyncrasy are not uncommon, and in ordinary cases the tolerance itself is a question of degree the estimation of which is practically impossible.

With regard to *henbane* and *cannabis indica* I have little of good to relate; in my experience no reliable effect could be produced with either; the former tending to produce excitement rather than sedation, the latter so unreliable in the strength of its preparations that result was always a matter of conjecture. I was strongly advised to try the American Pharmacopœia extract of can. ind. as being the best, but even with this, which I obtained with difficulty, the hashish effect was the only reaction I could get with regularity.

My first five years were spent in a state of uncertainty and vacillation between the foregoing drugs. Throughout that

time, feeling certain that bromides were indicated, I gave them in nearly, if not every, case in doses of fifteen to twenty grains every three or four hours during the first week of treatment in combination with one or other of the before-mentioned hypnotics. The fact, however, that the most common complication during the first day or two of treatment was an epileptiform seizure, the growing certainty that in the place of pure hypnotics acting chiefly on the higher centers, the fundamental principle underlying treatment should be *primarily* the production of *peripheral sedation* and reduced irritability of muscular system; these indications pointed most definitely to bromides, although by pushing them I was prepared to find that the same nervo-muscular sedation, so generally desired, would of necessity also apply to the heart muscles, and that cardiac depression consequently might prevent adequate advantage being taken of full doses. I was not at that time without practical experience of full doses of bromides given in cases of morphinism, even to the extent of producing extensive incoördination, and in my opinion the value of administration to this extent was *not* favorable to the method. Nevertheless, on careful consideration of the two circumstances a wide distinction is evident, for in the treatment of morphinism by slow reduction the bromide exhibition is necessary for at least two, perhaps three or four, weeks, whereas in the treatment of alcoholism by abrupt removal the administration is rarely necessary for longer than forty-eight hours.

The succeeding two years may be regarded as an interim period, marked by steady increased doses of the bromides with and without other hypnotics.

As the bromides were increased the signs and probability of complication gradually diminished until, towards the end of that time, I had reached an average of ninety grains of potassium bromide per dose given four to six times during the first forty-eight hours. I found that although peripheral and general sedation was all that could be desired, treatment by

bromides alone did not in some cases have a sufficiently hypnotic effect to be ideal in its action. The patient would lie quiet and comfortable, but comparatively sleepless, or only blessed with short unsatisfactory dozes. Addition, consequently, of a pure hypnotic seemed advisable, and under the circumstances, as subsequently proved to be the case, a small dose only was required to give excellent results. Again trying various combinations, chloral was finally accepted as being in every way most reliable and safe in the moderate doses required. During the remaining seven years of my experience I have adhered to this treatment, and now at the close of that time have not the slightest desire to alter the methods indicated. Of the bromides I greatly prefer the potassium salt, probably from greater practice in its use; at any rate, I have not the same confidence in obtaining equal results with sodium or ammonium, and in the meantime have no inducement to try. The only indication for substitution of either of the latter would be the presence of cardiac depression from potassium, but this has proved inappreciable or absent and the necessity consequently has not arisen.

A few words, perhaps, are advisable concerning the administration of stimulant drugs. I have spoken throughout of the sudden withdrawal of liquor; by that, of course, I mean all alcoholic drinks recognized as such by the drinker, and still adhere to that principle as being necessary. There are, however, certain periods during recovery when the administration of a stimulant draught is distinctly advisable and improves the patient's chances of rapid recovery. The draught I am in the habit of using is composed of rectified spirit, aromatic spirits of ammonia, and compound tr. of cardamoms — ʒiss. of each, with or without, according to severity of symptoms, ten minims of ether sulph.

With regard to the coal-tar derivatives as a whole, I have little faith in relying upon them to produce sleep in the presence of physical distress.

Except at the conclusion of treatment in acute stages, and in some mild cases of insomnia occurring subsequently, I have almost discontinued their use.

It is well during the first twenty-four to forty-eight hours to watch the urine. It may become scanty, high colored, depositing large quantities of urates — indications to be met by free administration of diuretics until these conditions have disappeared.

I would remind you that throughout this paper I have separated my fourteen years' experience into divisions of five, two, and seven years, respectively. You will also remember that of the four cases of delirium tremens two were due to circumstances unconnected with "knocking off" liquor, and two I alluded to as probably avoidable.

During the first period of five years (large doses chloral and small bromide) *one* of these cases of delirium occurred, and *eleven* complicated with epileptiform convulsions; the succeeding two years (increasing bromide) showed a record of two cases of epileptiform convulsion; and during the final seven years (large doses bromide, small chloral) *I have not had occasion to treat a single case of either complication.* There remains, however, one case of delirium tremens to be accounted for. It has been my invariable custom to arrange my summer holiday so that my *locum tenens* should not be under the necessity of admitting new patients. In the year 1895, however, pressure was brought to bear upon my deputy with the result that he admitted a bad case who twenty-four hours after admission had an epileptiform convulsion, followed by a severe attack of delirium tremens. I had the curiosity subsequently to examine in detail his treatment, and found that he had given the usual small doses of potassium bromide, but owing to albuminuria had hesitated to prescribe chloral in sufficiently full doses to even produce sleep. This I consider a significant occurrence. Had the bromide been administered in adequate dosage and the chloral considerably less than was

given, the result would have been different. In addition, the earlier periods were marked by many instances of violent tremor, restlessness, and insomnia, all of which in late years are markedly diminished and in a very large majority of instances altogether absent.

General pruritus, a common symptom, troublesome to treat and causing considerable annoyance to the patient, has almost entirely disappeared or has only occurred in modified form in isolated cases.

Persistent vomiting, at one time a common occurrence during the period of greatest nervous prostration, is now very rare indeed.

In conclusion, the bromide dosage may seem to you large, but I have fairly tried to give you an idea of the extent to which I have found it advantageous. In some cases the full quantity is not required, in which instance I invariably lessen the number rather than the size of the dose. In severe cases again a more free use may be required, and I have never hesitated to considerably increase the quantity. I have never experienced any single instance where there has been occasion to regret administration to this extent; there has been no sign of incoördination or other evidences of excessive spinal depression, the condition of heart and pulse has never given me sufficient uneasiness to warrant discontinuance of treatment, and bromic acne is a matter of rare occurrence and limited extent.

The safety in its use doubtless depends upon the short period of time over which it is required.

It would be worse than useless in cases where liquor cannot be removed from the patient's reach, and the longer administration necessary in gradual reduction would probably result in one or all the typical symptoms of bromism. This I mention as a caution against its *continued* application in large doses, which I wish most distinctly and emphatically to discountenance. In connection, however, with the treatment of acute stages, during rapid removal, I claim for potassium bromide —

in adequate doses — properties possessed by no other drug in the Pharmacopœia, and the one of all others most useful in producing a condition of comparative comfort and avoidance of complication; moreover, as far as one can judge from seven years' regular use, I am prepared to add that in my opinion it can be exhibited on the lines I have indicated with absolute safety, and without any but advantageous results.

SORROW AND WASTE OF INTEMPERANCE.

Sometimes our temperance reformers are counted harsh in speech, critical in temper, narrow in outlook, lacking in generosity and sanity of outlook. But broad minds will also be just and generous, even toward those who are thought to be extremists. The very heart of the temperance reform is this single principle: Those strong and well-poised persons who will never be injured by the use of wine owe something to the weak ones who will be destroyed thereby. When for three generations a family uses liquor in excess, nature registers the deterioration. It has been said that the first Webster represents colossal strength and sobriety. Daniel Webster represents colossal strength and moderate drinking; his son represents erratic strength; his grandson represents one who made the amusements of his ancestors to be his occupation. Some there are born with soft nerve and flabby brain, and, like the reed, they bow before the wind of temptation. And the strong owe them sympathy, shelter, and protection. Our age is still cruel and harsh toward the children of weakness and temptation. Our alleys and tenement-houses are filled with the children of ignorance and squalor, who have been cursed by centuries of misrule and superstition under foreign governments, who were born without nerve or poise or self-control. And for the state to place stimulants in their hand is for a parent to give pistols, razors, and bomb-shells to babes to use as playthings.— Newell Dwight Hillis, D.D., in *The Homiletic Review* for July.

MEDICO-LEGAL RELATIONS OF MORPHINISM AND OTHER ADDICTIONS.*

By E. C. Clevenger, M.D., Chicago, Ill.

Absinthe drinking concerns the French people more than it does the American or the English, as in France the habit is prevalent, while elsewhere it is hardly heard of. When absinthe, the essence of a plant known as *Artemisia absinthium*, is mixed with alcoholic drinks it adds its special action to that of alcohol. It produces dizziness, and finally an epilepsy which differs in no way from the ordinary disease of that name. Absinthe intensifies the alcoholic effects, and it is claimed that it anticipates and overshadows them. It acts more swiftly than alcohol, causing greater excitement, frightful hallucinations, especially of sight, and, as French authors such as Laborde, Motet, Melangée, Magnan, and Legrain affirm, "the drunkenness of absinthe is, moreover, of unprecedented violence and presents the greatest danger."

Darnel seeds as an adulterant of liquors, mentioned as such in the English licensing acts, require notice because they intensify the action of alcoholic drinks, and cause narcosis, vertigo, dizziness, headache, and a species of drunkenness; *Lolium temulentum* is the botanical name of the plant. From ancient times these seeds have been regarded as deleterious to the human system, producing symptoms analogous to intoxication from alcoholic drinks, whence the plant derives its specific name of *temulentum*, and the French name of *ivraie*. The properties, chemical and general, of the seeds are described in the United States Dispensatory. *Cocculus Indicus* is another article among several deleterious adulterants, suggesting that

* From the *Medical Jurisprudence of Insanity*, in print. See notice in April number.

undue effects of drinking may often be accountable to other things than alcohol.

The cocaine habit and insanity were announced by Erlenmeyer in 1886, a few years after the discovery of the physiological effects of cocaine hydrochlorate by Kollar. Morphine habitués are the chief victims, made such by attempts to substitute the cocaine for morphia in the hope of a cure of the latter addiction, which result in a rapid increase of the dose, and not only, in many cases, a return to morphia in connection with cocaine, but the addition of chloral and alcoholics, all of which are taken in extraordinary quantities. Sometimes the addiction acquired innocently, through ignorance of the composition of certain quack catarrh-snuffs, or in the treatment of hay fever. Through the local anæsthesia produced by cocaine, relief from many distressing symptoms is temporarily secured, but the terrible effects of the drug soon become manifest in the formation of an irresistible craving which increased quantities fail to allay. Severe symptoms sooner or later appear in delusions of persecution, acute mania, and dangerous impulses. In some cases hallucinations of sight and hearing, mental confusion, loss of memory, and mental weakness are the chief effects. Talkativeness, confused letter-writing, abusiveness, noisy irritability, and unreasonableness generally are frequent symptoms. Temporary mania has been occasioned by small quantities used to assist surgical operations. Several victims of the habit, in my experience, were physicians, one of whom for two years was frenzied, aggressive, treacherous, vindictive, suicidal, and homicidal; most troublesome when his attempts to secure the poison were interfered with. After becoming notorious in both Chicago and New York, he recovered under treatment, and is apparently as well as before. Another physician became ataxic in his legs during the habit, and experienced but little discomfort aside from the general numbness. He also recovered. A surgeon used thirty grains daily for a severe pharyngeal catarrh from which

he suffered, and became so intolerable that his wife and daughter fled from his unjust, insane abuse. His boisterousness and quarrelsomeness were erroneously ascribed to whisky. Collapse is apt to follow the sudden withdrawal of cocaine, but the habit appears to be more readily cured than either the liquor or the opium addictions.

The opium or morphine habit entails its own punishment. The offenses against others committed by the opium eater are few in number and in kind, and, except as a degraded individual occasionally in police courts, probably for some petty theft, he is of but little consequence where criminal law is concerned. Testamentary capacity and the ability to transact business are occasionally affected, but not conspicuously unless the addition has produced recognizable insanity. Three-fourths of those afflicted with the habit claim that physicians prescribed the drug for them initially. Often patients resort to refilled prescriptions without the knowledge of the physician. Women acquire the habit usually in this way, and equal the males in number. Physicians themselves afford about 15 per cent. of the sufferers; usually country doctors whose irregular life has led up to the habit, which has often been instituted in attempts to cure the whisky habit. Though in a few cases it has been used for forty years, few survive the fifteenth year of opium using. Most opium users are in bad health, either from a time before the drug was taken or as a result of its use. Ten per cent. at least of the unfortunates finally become insane. When the habit is fairly instituted, deprivation of the drug causes intense suffering, and may result in heart paralysis or a temporarily maniacal condition.

De Quincey's book, "Confessions of an English Opium Eater," has lured many into the habit and they have found when too late that the author had underestimated the dangers and overstated the pleasures experienced. All reliable authors on the subject state that mendacity is a marked feature of the

opium habit. The value of testimony is affected by this fact. Opium or morphine users become hypersensitive, suspicious, cowardly; they fancy insults where none were intended; they have delusions of persecution and of conspiracy; their dispositions are fickle and unreliable; they alternately boast and exhibit humility. Indecision is observable, and, as De Quincey said in relation to Coleridge, "opium eaters never complete any work." They seek solitude, avoid their friends, and usually hang their heads to avoid direct gaze, as the pupils of their eyes are contracted to "pin-hole" size, and indicate the use of opium.

At times they are loquacious, their thoughts are rapid to tumultuousness and incoördination, so that literary work is difficult or impossible. The senses of sight, hearing, taste, smell, and touch are impaired, objects are distorted and appear double, things "taste alike," odors which escaped notice before become intolerable, there are auditory hallucinations usually of a distressing character such as abusive voices. Sleep is disturbed by horrible dreams, if it is not at times banished altogether. The drug loses its hypnotic power and acts erratically so far as causing sleep is concerned. Memory gaps and trance states similar to those caused by alcohol occur, in which routine but complicated acts are performed, with no subsequent recollection of what was done. And these memory lacunæ are independent of the quantity of morphine or opium used, and without regard to any particular time.

Opium smoking is the most degraded state of addiction, and Cobbe states that police estimates grant about two years for the opium smoker's life. Opium joints where the smoking is done are sneak-thief dens. Petty larceny is connected there, and the victims of the smoking habit are induced to steal, and are then robbed in turn. It is a mistake that these dens are used for otherwise immoral purposes. Opium destroys the sexual life, and the frequenters of smoking joints are far advanced in degradation as a rule. The filthiness of the

places is far from alluring to novices. Impotence is the rule among opium eaters; the women are usually sterile, and their menses cease. The bowels are costive, with occasional severe diarrhœas; the skin becomes parchment-like and yellow.

There is no pathological anatomy accredited to morphine or opium eating. That is, whatever conditions have been found, in the way of disease existing after death, appear to be due to other or secondary causes, rather than directly to the use of the drug.

In judicial proceedings concerning wills, sales, purchases, etc., the mere matter of opium or morphine addiction is of no consequence except so far as it has affected the mind. The habitué has been known to forge prescriptions and to pilfer, and he might do worse for the sake of obtaining the poison. Life insurance considerations are occasionally involved.

In *Rogers* vs. *State*,[1] on trial for larceny, it appeared from the evidence that the prisoner was addicted to the habitual and excessive use of opium in some of its forms, and there was evidence from which it might be inferred that at the time of the larceny he had been deprived of his accustomed supply of the drug. He sought to show the effect of such deprivation upon his mental conditions, but the trial judge refused to allow him to do so. On appeal this ruling was reversed. "We think," said the Supreme Court, "that the evidence was competent as tending to show whether or not he was at the time in a condition mentally such as to be able to commit larceny."

The opium habit includes the undue use of morphine, codeine, laudanum, paregoric, chlorodyne, and McMunn's Elixir.

Claus C. Jensen, said to be a morphine eater, was on trial before Judge Carter of the Chicago County Court, June 6, 1895, for his sanity. The case was the subject of much discussion between the court, Dr. Fortner, the county physician, and the jury with reference to the propriety of sending

[1] 33 Ind., 543 (1870).

patients of this character to an insane asylum for treatment. It was suggested by one of the jurors that it would not take long to fill up the insane asylums if morphine eaters were to be sent to them indiscriminately. Dr. Forbner maintained that an asylum was the proper place for such, and insisted that so long as the morphine was in his system the victim of the habit was irresponsible for his actions.

As Jensen's case was the first one of the kind to come before Judge Carter, he had a number of morphine experts placed upon the stand to ascertain whether a victim of the stimulant was necessarily insane. The physicians all agreed that where the habit was at all strongly formed a morphine eater was insane, and therefore a fit subject for an institution. Jensen was sent to the county insane asylum.

Insanity from opium using may appear at any time during the addiction, frequently during abstinence in attempts to break off the habit, or when, during imprisonment or some sickness, such as pneumonia, the drug has been withheld from one habituated to its consumption. Authors are agreed that many different forms of insanity are caused by using opium. Hammond[1] states that morphine may produce any variety of mental aberration. Regis[2] claims that morphine is capable of provoking mental disorders of various kinds; and the history of recent criminal trials shows that the medico-legal chapter of morphinism has been opened. In a general way the insanity caused by morphinomania resembles in all points all the other toxic insanities, and, like them, manifests itself in more or less acute attacks of mania or melancholia, with insomnia, terrifying visual hallucinations, tremors, etc. Bucknill and Tuke[3] mention opium as a cause of insanity, as does Griesinger.[4] Savage[5] believes that the opium crave is stronger than any other. He states that symptoms resembling

[1] Insanity, 661.
[2] Practical Manual of Mental Medicine, 512.
[3] Psychological Medicine, 430.
[4] Mental Pathology and Therapeutics, 121.
[5] Insanity, 430.

delirium tremens may be set up by opium eating or the injection of morphia, and mentions the fact that it has been said that a morphia injection will quiet in morphismus, but alcohol will cause excitement. There are present the same tremor, want of appetite, refusal of food, ideas of poison, hallucinations, and tendency to erotic ideas. Chronic morphismus may also be set up, with suspiciousness, auditory hallucinations, and feelings of galvanic shocks. Cocainomania is a form of excitement caused by the abuse of cocaine, generally in conjunction with morphia.

Clouston[1] says: "I have seen many cases of insanity resulting from opium eating, and one from the hypodermic use of morphia. They were very likely the insanity of chronic alcoholism, but not so suicidal, with greater weakness of the heart's action, and more sleeplessness, sickness, and intolerance of food for the first fortnight. It is precisely the same class of persons who indulge in opium who indulge to excess in alcohol, and the treatment is the same, viz., an immediate stoppage of the drug, with much liquid nourishment, fresh air, and watching. I have seen two cases of insanity brought on by the use of chloral. They, too, were of the same generic type as the alcoholic cases, and demanded the same treatment."

Tuke[2] says: "Chronic morphia poisoning produces mental weakness and therefore belongs to the causes of insanity," and that both using and abstinence from morphia produce insanity, differing in symptoms and prognosis. "The most frequent form produced by intoxication (of morphinism) is monomania (mania marked by delusions as to persecution and mania, with exalted views, together with mental weakness). This form is mostly incurable. . . . A certain number of patients become insane, while others commit suicide. At the Elgin (Illinois) Insane Hospital there is an interesting case of the above-mentioned paranoia after opium deprivation; he

[1] Mental Diseases, 318.
[2] Dictionary of Psychological Medicine, 818.

has delusions of persecution, and imagines that every one, including his sister, steals from him. Spitzka[1] describes a chronic form of opium insanity, and an acute opium delirium analogous to delirium tremens. He also mentions a chronic delusional insanity, and acute mania from opium.

Other injurious drugs sometimes used in conjunction with an opiate are bromides, chloral hydrate, cocaine hydrochlorate, atropia, sulphuric ether, chloroform, Hoffman's Anodyne, Cannabis Indica, or hasheesh, alcohol in various forms, as in tinctures of ginger, cinchona, or valerian. Some of the above-named drugs, such as chloral, chloroform, ether, etc., are used alone, and eventually deprave both mind and body. Cigarettes have sometimes been found to contain opium, stramonium, belladonna, and Indian hemp; and their use appears to create a craving for alcoholic liquor.

THE MORPHINE HABIT AS A LEGAL DEFENSE.

A kleptomaniac in one of the British courts plead guilty and her counsel assured the bench that she was in no want of money, but had sufficient means to enable her to live comfortably, and asked that she be treated leniently on the ground that the theft was due to the effects of the excessive use of morphine. According to the testimony, she had consumed ninety-six grains of morphine in a single week. The magistrate suspended judgment, upon the defendant giving security in £50 to appear for sentence when required. De Quincey's daily consumption of laudanum was nine ounces, and there is a case on record where 120 grains of opium was taken at once without producing death. The tolerance of opium and its salts proves in reality much more than old women's fables, and instances of enormous doses are in the possession of nearly every family practitioner. A poisonous draught of laudanum cannot be measured by cases on record.

[1] Manual of Insanity, 254.

THE INFLUENCE OF TOBACCO ON THE DEVELOPMENT OF THE CHILD.

By E. Stuver, M.S.C., M.D., Ph.D.,

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One of the most widely used of all the narcotic substances is tobacco. The deleterious substances of tobacco smoke are carbon, which acts mechanically as an irritant and discolors the secretions of the bronchial tubes; carbonic acid, which tends to produce sleepiness, headache, and lassitude; carbonic oxide, "a very active, poisonous agent producing drowsiness, unsteady movements of the heart, tremulous, even convulsive, movements of the muscles and vomiting, and an oily-like substance or crude nicotine consisting of *nicotine* proper, which produces tremor, palpitation of the heart, and paralysis; *ammonia*, which bites the tongue, makes the mouth and throat dry, and induces thirst, thereby causing the smoker to drink freely and excites a free salivary excretion. The ammonia also exerts a solvent influence on the blood. It likewise contains a volatile empyreumatic substance which causes a sense of oppression and gives an unpleasant odor to the breath.

Concerning the physiological action of tobacco, Wood (Ther. and Mat. Medica, sixth edition, p. 396) writes as follows, viz.: "Upon persons who are not habituated to its use, tobacco acts as a very powerful depressant, producing horrible nausea and vomiting with giddiness and a feeling of intense wretchedness and weakness. If the amount taken has been

large, to these symptoms are added burning pain in the stomach, purging, free urination, extreme giddiness passing into delirium, a rapid, running, and finally imperceptible pulse, cramps in the limbs, absolute loss of muscular strength, a cold, clammy skin, and finally complete collapse, terminating in death."

Nicotine is an exceedingly virulent poison; very small quantities, even 1/30 gr., have caused poisonous symptoms in the body (J. W. Seaver, M.D.), and large doses almost instant death. Tobacco increases the fluidity of the blood, interferes with the development of the red blood corpuscles, causes disintegration of the red blood corpuscles, diminishes the power of the blood to take up oxygen and give off carbonic acid, and thereby retards the progressive cell changes upon which the development of the body depends; it produces debility and irregular action of the heart and lowers the tone of the whole circulatory system; it weakens digestion and assimilating functions and not only prevents the burning up of waste materials but retards their elimination. In the nervous system tobacco acts as a depresso-motor, producing "languor, feebleness, relaxation of the muscles, trembling of the limbs, great anxiety and tendency to faint."

It also acts as a cerebral irritant and interferes with the vaso-motor centers of the brain to such an extent that the vessels are unable to adjust themselves to the condition required for healthy and untroubled sleep. The power of fine coördination is likewise decidedly lowered by the drug.

Tobacco frequently causes disturbances of the special senses. Owing to the irritation of the nasal mucous membrane the olfactory sensibility is impaired, and probably owing to the irritation and congestion set up in the nose and throat, together with centric nerve disturbance, the hearing is sometimes lowered; but of all the special senses the sight is most seriously affected, and tobacco amaurosis or amblyopia is a not infrequent result of the excessive use of the drug. Fortu-

nately, however, in the adult these untoward effects, which are almost entirely functional, rapidly disappear when its use is discontinued. While this is true of those who have attained manhood, it is very different with adolescents in whom the habit of smoking causes impairment of growth, premature manhood, and physical prostration.

Fortunately for us, however, this matter has been removed from the sphere of sentiment and speculation and is now established on a solid scientific foundation. "From measurements of 187 men of the class of 1891, Yale, Dr. J. W. Seaver found that the non-users of tobacco gained in weight during the college course 10.4 per cent. more than the regular users, and 6.6 per cent. more than the occasional users. In height the non-users increased 24 per cent. more than the regular users and 12 per cent. more than the occasional users. In increase of chest girth, the non-users had an advantage of 26.7 per cent. and 22 per cent., and an increase of lung capacity of 77.5 per cent. and 49 per cent., respectively. These facts in regard to the dwarfing effects of tobacco are corroborated by observations on the class of 1891, Amherst, made by Dr. Edward Hitchcock. He found that in *weight* non-smokers increased during their course 24 per cent. more than the smokers; in increase in *height* they surpassed them 37 per cent.; in gain of chest 42 per cent.; and in gain of lung capacity 75 per cent. It is probable that alcohol and other poisons have similar effects." The deleterious effect of tobacco on the muscular system and in diminishing the powers of endurance is strongly emphasized by the fact that — stop smoking! is one of the first injunctions given a young man on engaging in training for a race or game of any kind requiring strength and endurance, because every experienced trainer knows that smoking lowers the working power of the human muscle by a large percentage, and that to smoke merely invites defeat. If tobacco so seriously injures the young athelete during a short period of training, how much greater must the injury be

in the preparation for the arduous duties of our exacting modern civilization? How seriously handicapped is the boy who enters the race of life with every cell and tissue of his body poisoned by nicotine. According to the evidence of teachers and educators all over the civilized world, tobacco exerts a very pernicious effect on the student. He becomes dull, lazy, and unreliable, and retrogrades in his work. Indeed so marked were these effects that, "In France the difference between the students in the polytechnic schools who smoked cigarettes and those who did not, in scholarships, as shown by their respective class standings, was so great that the government prohibited absolutely the use of tobacco in all government schools." "Out of thirty principals and teachers interviewed by the Chicago Record all were agreed that a low standard of scholarship characterized the boy who habitually used cigarettes." The extended investigations of Dr. Sevier of Yale College Physical Department, and Dr. MacDonald's studies of school children at Washington conclusively show that cigarette smokers are feebler physically and mentally than other students. This, together with the fact that a large percentage of the prize-winners and men who stand highest in their classes do not use tobacco ought to convince every unprejudiced person that tobacco is at least injurious to the mind of the developing child and youth. We make this statement boldly, notwithstanding the specious arguments and special pleading of Lawyer Garrison in his paper, "A Brief for the Cigarette," read before the New York Medico-Legal Society, in which he tries to create the impression that because a large number of cigarettes examined were made of pure tobacco and did not contain opium or other adulterants, that, therefore, they were harmless. What sophistry! Just as if pure tobacco which contains a substance far more poisonous than either strychnine or morphine — is not in itself sufficiently dangerous! Such attempts as these which undertake to overthrow the clearly demonstrated facts and encourage boys and

young men in the formation of a habit which can do them absolutely no good, but may be the source of much injury both to themselves and their friends, besides being a nuisance to everyone, not saturated with the vile poison, with whom they come in contact, are certainly not based on correct ethical principles, and leave a strong impression that they are stimulated by a quid pro quo from the tobacco trust.

Effect on the Moral Nature. — The use of tobacco has a peculiarly demoralizing effect on the moral nature of the young. In addition to making boys tired, stupid, and lazy, it makes them irritable, perverse, and careless of the rights and feelings of others, besides, in many instances, leading to lying, and even stealing. This tendency to moral degradation is exceedingly prevalent among habitués of all kinds of narcotic poisons and especially so among those addicted to the use of opium. I have seen quite a large number of so-called "fiends," and have yet to find the first one on whose word I could rely in a business transaction. There may be honest ones, but if so I have never met them.

For many years I have been firmly convinced in my own mind that much of the pallor, anaemia, malnutrition, and the many evidences of retarded growth and development so frequently seen, especially among the poorer classes of our people, are largely due to the tobacco-laden, poisoned atmosphere which these children are obliged to breathe. Many a time have I gone into a small, poorly-ventilated room where, at the best, it was difficult to get sufficient pure air, and found a child suffering from pneumonia or some other severe disease so enveloped in the foul fumes of stale tobacco smoke that it could scarcely breathe, and every breath it did take, a poisoned one, and have seen the father, who, apparently, was very solicitous about his child's condition, puffing away complacently at an old pipe, whose horrible odor ought easily to win for it the place of honor in a white-lead factory or a tannery, and while doing more harm than all the science and skill of the medical profession, armed by the whole materia medica, could counteract,

would probably be finding fault with his physician and blaming him for the child's slow recovery. Nor is this the most discouraging part of the matter, because in quite a number of cases when their attention was called to the evil effects of the tobacco smoke, the fathers became angry and refused to believe that it had any such effect. Such cases as these show the moral obtuseness that may follow or the utter selfishness that may be engendered by the use of tobacco, better than any lengthy theoretical disquisition could possibly do. Neither, according to competent authorities, do the evils wrought by tobacco cease with the death of its users, but linger to curse their descendants. No evils are so manifestly visited upon the third and fourth generation as the evils which spring from the use of tobacco.

Dr. J. H. Kellogg, in a recent paper, makes the following clear distinction: "The majority of persons who acquire this disease of drug addiction are peculiarly constituted individuals, who may be divided into two classes, as,

"(1) Those who live upon the sense plain, regarding the body a harp of pleasure to be played upon so long as its strings can be made to vibrate by force of will or the aid of artificial excitements, and who, when the natural resources of the body are exhausted, seek artificial and unearned felicity through the aid of various nerve-tickling, pain-and-trouble annihilating, felicity-producing drugs.

"(2) Those hypersensitive, neurotic, delicately-organized individuals, a rapidly-increasing class, who are the natural result of the artificial brain and nerve-destroying and race-deteriorating conditions of our modern life. These persons, lacking physical capacity for enduring the pains, hardships, and tribulations of life, from which they suffer untold and indescribable agonies, seek relief in some nepenthe which promises them ease from the present stress of suffering, overlooking all considerations respecting what the future may have in store for them."

THE TREATMENT OF INEBRIETY.

By A. M. Rosebrugh, M.D.,

Secretary of the Prisoners' Aid Association of Canada.

Before proceeding to the discussion of the medical treatment of inebriety it will, perhaps, not be considered out of place to make some reference to the question from a more general standpoint.

The present would seem an opportune moment for calling the attention of the medical profession of Ontario to the great need of proper provision being made for the scientific treatment of habitual drunkards. Inebriety is a disease, and its victims become the progenitors of epileptics, imbeciles, inebriates, and criminals. From a medical standpoint, as well as from the standpoint of humanitarianism and public economy, the question of inebriety has a claim upon the medical profession fully equal to that of epilepsy and tuberculosis, and almost equal, in fact, to that of insanity itself. For the efficient treatment of insanity, tuberculosis, and epilepsy, the asylum, the sanitarium, and the farm-colony are required, respectively; so also for the efficient treatment of inebriety the special hospital and the industrial reformatory are required. The present plan of sending habitual drunkards to gaol is both unphilosophical and bad economy.

For several years I have been interested in the question of the reformation of drunkards, and a few months ago I was commissioned by the Prisoners' Aid Association of Canada to formulate a scheme to be presented to the Ontario government

with regard to the proper care and treatment of inebriates. In executing this commission, I visited inebriate institutions and interviewed specialists in inebriety both in Canada and the United States, and in formulating my recommendations the object I had in view was to secure the maximum of efficiency with the minimum of expense. My recommendations are as follows:

(1) The appointment by the Lieutenant-Governor in Council of an inspector of inebriate institutions. This inspector should be a qualified medical practitioner who has made the medical treatment of inebriety a special study. (2) The inspector should organize in the city of Toronto a hospital for the medical treatment of pauper male inebriates of the more hopeful class. In the other cities of the province an inebriate department should be established in the existing general hospitals, more especially for pauper male inebriates. (3) An industrial reformatory should be established on the farm-colony plan for the custody of the more hopeless or incorrigible class of male drunkards, and where they should be detained on indeterminate sentences. (4) Pending the opening of an inebriate hospital in Toronto, it would be both humane and in the interests of prison reform to give special medical treatment to the dipsomaniac inmates of the Central Prison. (5) For the more hopeful class of female inebriates, cottage homes, or the utilizing of existing homes, are recommended for special medical treatment. (6) For the incorrigible class of female drunkards, full two-year sentences to the Mercer Reformatory for Women are recommended. (7) In the adoption of scientific medical treatment the Norman Kerr-Crothers system or general plan of treatment is recommended. In the interest of science and good morals, proprietary remedies should not be used. (8) The adoption of the "probation system" for giving a helping hand to patients subsequent to treatment for inebriety.

It is self-evident, it seems to me, that by carrying out the scheme herein formulated with regard to the treatment of male

and female inebriates the cost would be reduced to a minimum, and the number of chronic inebriates remaining to be provided for at the Mercer Reformatory for Women or on the farm-colony for men would be reduced to small proportions.

It will be observed that in my recommendation I make mention of what I call the "Norman Kerr-Crothers" system of medical treatment. By this I mean medical treatment on sound principles of therapeutics, such as is given in Dr. Norman Kerr's treatise on inebriety and as endorsed by Dr. T. D. Crothers in his article on "Alcoholism," in Hare's "Practical Therapeutics." Dr. Crothers is editor of the QUARTERLY JOURNAL OF INEBRIETY, and is secretary of the American Association for the Study and Cure of Inebriety. While on my recent visitation tour I had the privilege of calling on Dr. Crothers at Walnut Lodge Sanitarium, Hartford, Conn. His hospital is elaborately fitted up with a Turkish bath and other baths required in an inebriate hospital, and I found that these baths play a most important rôle in the treatment. The doctor had great faith in the principle of *elimination*. He purges and sweats and scrubs his patients most heroically — more especially at the outset of treatment.

On admission, a general examination is made, and the patient given a Turkish bath at the earliest moment. Calomel and Rochelle salts are administered promptly, and subsequently alternated often for the first two weeks. In some cases spirits, wine, or beer are given at intervals for a short time, but in most instances all spirits are stopped.

Dr. Crothers thinks inebriety in a certain class of cases is preceded by symptoms of melancholia or dementia. "The brain and nerve condition is one of progressive degeneration, and the drink impulse is a psychical demand for relief." These cases should be clearly diagnosed, and all advice and treatment based on the facts. They are on the border line in regard to mental and physical health, and the physician should see that measures are adopted that will make a thorough change

in their present habits and non-hygienic rules of living. The causes and breeding-grounds of neurotic degeneration should be broken up. These cases should never be sent to jail or treated as moral delinquents. They require hospital or asylum treatment, and "the alcohol question will never be solved until this is done." Jail treatment is singularly fatal to this class.

In a second class of cases the sudden excessive use of spirits is preceded by a chain of symptoms less pronounced, but the withdrawal of spirits unmasks the mania. They are in a state of irritation with exhaustion and delirium, and often acute delirium follows the removal of spirits, requiring restraint.

A third class is the periodical drinkers. They drink to excess at certain distinct intervals. In a large proportion of these cases it is found that the parents are either insane, epileptic, or alcoholic inebriates. The question of home treatment in these cases is most important — more especially during the sober intervals, which in some cases extends to many months. The diet is of first importance, as also the surroundings of the patients, the work, the climate, and strains and drains on the nervous system. The treatment is largely a question of hygiene and dietetics. Medicinally, the return of the drink-craze may be averted or partially neutralized by anticipating the date of said return and using the bromides freely a few days before the expected return of the paroxysm. The bromides may be given with impunity in these cases in 100-grain doses. Phosphoric acid or citric acid may be used. Strychnine, gr. 1/40, every four hours before the paroxysm comes on is also valuable.

The Turkish bath is also useful. The bowels should in all cases be acted upon freely on the first symptom of the return of the drink-storm. Rochelle salts with potassa bitart every two hours is recommended. Chloral, gr. xv., with fl. ext. gelsemii, m x., may be combined with xl.-grain doses of soda bromide to control the paroxysm. It must ever be borne in mind, however, that the control of the paroxysm is only a

small part of the treatment. The condition which provokes the paroxysm is the objective point of attack.

In the fourth class of inebriates the treatment is most perplexing, namely, young men — sons of wealthy parents — with bad mental surroundings, bad company, and ignorant. In treating these cases a radical change of life and surroundings is essential. They must go in training under the care of a physician who will regulate all the surroundings and conditions of life. If this cannot be done at home, the patient should be removed to a retreat for inebriates. Of tonics, either nux vomica, gr. ½ to 1 grain, or arsenic tablets, gr. 1/30, three times a day, may be used. Quinine and iron may be used for a couple of weeks with advantage. The diet must be regulated carefully. Lean meat properly cooked and served at regular intervals is useful with or without farinaceous diet and fruits.

In a fifth class of inebriates, the inebriety is caused by overwork and general neglect of healthy living. These inebriates are from circles of business and active professional life. The drinking usually dates from some state of brain and nerve exhaustion. Except where there is an inherited disposition, such cases are largely curable. Prolonged rest of brain and nerves is necessary, however, in addition to abstaining from drink.

In a sixth class of cases the inebriety is due to brain injury, such as shocks or blows on the head. Some obscure injury antedating the inebriety makes the prognosis unfavorable. Iodide of potassium is indicated in these cases, as also nux vomica, say, 10 grains of the former to 1 of the latter three times a day. Iodide of arsenic is also a useful remedy. Turkish baths, massage, moderate exercise, and quiet surroundings are also indicated. These cases require systematic care quite as much as cases of insanity.

A seventh class are preëminently *dipsomaniacs*. In these cases the impulse to procure spirits is literally a mania and becomes so intense as to sacrifice every consideration of sense and

judgment. A strong cathartic and a Turkish bath daily, with massage, will in most cases overcome this mania. Bromides, iron, phosphorus, and cinchona are useful with a change of surroundings. Monobromated camphor in 5-grain pills every two hours has the same effect. A hot bath with rubbing is a sovereign remedy with Dr. Crothers in these cases. A pill of phosphorus ½ grain, nux vomica 2 grains, and arsenite of iron ¼ grain, will build up the system and lessen future attacks. Fowler's solution in five-drop doses three times a day is a standard remedy in these cases. In dipsomania there is profound brain and nerve lesion, and the victim, for successful treatment, requires the advantages of a well-organized asylum for inebriates.

An eighth form of inebriety is due to the degenerative changes of old age, and is to be treated with arsenic, mercury, and iodide of potassium. The steady use of baths is essential, and is, of course, increased by hygienic changes of life and living.

In the classical work of Dr. Norman Kerr on the Etiology, Pathology, Treatment, and Jurisprudence of Inebriety or Narcomania, out of a total of 780 pages (third edition, 1894), 120 are devoted to the question of treatment. As an introduction to the question of treatment, Dr. Kerr takes up the discussion of the historical (so called) antidotes for the crave for alcohol, including the following: The Turkish bath, coca, alcoholic extract of frogs, raw beef, vegetarianism, saturating food with liquor, the strychnine cure, the gold cure, cinchona bark cure, and cure by hypnotic suggestion.

The first indication in sound treatment, according to Dr. Kerr, is to withdraw all alcoholic stimulants. This can always be done with perfect safety. The second indication is to remove any predisposing or exciting cause. The special features in each case must be carefully studied. Any physical or mental ailment must be treated according to indications. Dietetics and hygiene play an important rôle in the intelligent

treatment of inebriety — quite as important, in fact, as the use of drugs for the removal of the drink-crave. Except in the case of surgical accidents or sea-sickness, collapse or delirium tremens very rarely follows the sudden withdrawal of intoxicants. When these are feared, however, the system must be fortified, firstly, by appropriate food such as the patient can digest and simulate; and, secondly, by the use of medicinal remedies. The following mixture is recommended to aid wisely chosen food to avert unpleasant complications:

℞	Inf. columb.,		fl. oz. j.
	Sp. ammon. aromat.,		fl. dr. jss.
	Tr. cardamom. co.,		fl. dr. jss.
	Aq. distillat.,	ad	fl. oz. vj.

S. A sixth part every three hours.

In case of disordered digestion — nausea, vomiting, furred tongue — milk with soda or limewater, with ice and a stimulating effervescing mixture, would be given. Twenty-grain doses of potassium brom. are also given when thought necessary. The following form Dr. Kerr finds of service in these cases, and may be used with or without the bromide:

℞	Potass. bicarb.	gr. 120.
	Sp. ammon. ar.,	fl. dr. j.
	Tr. cardamom. co.,	fl. dr. j.
	Tr. nucis vomicæ.,	fl. ♏ xij.
	Aq. distillat.,	fl oz. vi.

S. A sixth part every four hours in effervescence with an acid powder —say, citric acid—15 grains. Hydrocyanic acid in two minimum doses may be added to this mixture.

In case of vomiting, very little water should be taken. It is better to suck a small piece of ice or take small sips of either hot or cold water. Milk or farinaceous diet are indicated here. Arrowroot and milk will be retained, in many cases, when nothing else will be. Tonics at this stage should be very sparingly administered. Bismuth and opium are used in cases where there is nervous irritability or *mania a potu*.

When the gastric disturbance has abated, a nerve and liver

tonic should be prescribed. The following combination has been found useful in Dr. Kerr's hands:

℞	Tr. nucis vomicæ., ...		fl. dr. ss.
	Acid nit. dil., ...		fl. dr. j.
	Liquor taraxici, ...		fl. dr. vj.
	Tr. cardamom. co., ...		fl. dr. j.
	Aq. distillat., ...	ad	fl. oz. vj.

S. A sixth part three times a day.

The bowels should be acted upon by podophyllin or calomel.

To procure sleep and promote nervous quietude, which is often essential, narcotics should be avoided, if possible. Try the effect of a hot foot-bath at bedtime, or a good-sized towel wrung out of hot water, applied to the epigastrium, and covered over with folds of warm flannel tightly bound with a bandage round the body. The bromides are to be preferred to an opiate, and they may be combined with henbane with advantage. The addition of chloral hydrate is an advantage in intractable cases. Chloral should not be given in large doses, however. Sulphonal is serviceable, and hot and cold baths are useful.

Constipation is a very common complication, and should not be neglected. Oatmeal porridge, whole meal, and brown bread and stewed fruit (for breakfast) will keep some patients free from constipation.

Bursts of excitement and violence following an inebriate paroxysm will subside as the poison is gradually eliminated under a judicious course of digestible nourishment.

As already mentioned, an important factor in the successful treatment of inebriety is the remedying of the predisposing cause, the pre-inebriate morbid condition. Another indication is to repair the physical damage and to strengthen the will-power. By the construction of new healthy structure in the reparation of tissue, there is nothing better than good healthful food, but the food must be such as both the stomach and the

duodenum can digest. The diet must be judiciously selected, and different diet is needed by different individuals.

In the selection of drinks for patients after treatment for inebriety, Dr. Kerr is very emphatic in the condemnation of all drinks that contain even 1 per cent. of alcohol. All tinctures and medicated wines are to be avoided. There must be total abstinence without any exception on either medical or religious grounds. Only unfermented wine should be used at the communion table. A sip of alcoholic liquor, even after years of abstinence, may be sufficient to relight the old crave for intoxicants.

To diminish the tendency to relapse, the will-power must be exercised, and to this end it is imperative that every possible auxiliary be called into action. The reason must be appealed to and moral and religious influences brought to bear. "Scientific medical treatment," says Dr. Kerr, "includes attention to hygiene, to diet, to the body, brain, mind, and *morale*. Everything that can contribute to the improvement of the soul and spirit, as well as to the reparation of tissue, has its place in the medical *armamentarium*."

The will-power may be strengthened, moreover, by the mere act of taking medicine, even if it be only a *placebo*. A gentle tonic composed of tr. gentian. co., acid nitromur. and tr. cardamom co., is useful for this purpose. The syrup of orange and quinine (Beckett's) is a palatable substitute for the bitter beer of the drinker.

Strychnine pills, preferably the nitrate, gr. 1/50, twice a day, is sometimes efficacious when other preparations have failed. The citrate of iron (or iron and quinine) and strychnine may also be used. Dr. Kerr, however, prefers nux vomica in these cases, as, for instance, a pill containing ¼ gr. of the extract, with ½ gr. of belladonna, twice a day, or the tincture in five-minim-doses, with dilute phosphoric acid and aq. chloroformi, three times a day. When the liver is affected, "nux, with dilute nitric acid and taraxicum, is invaluable.

An occasional dose of blue pills, followed by a saline aperient draught, will unload the oppressed viscera and relieve the *malaise.*"

A well-known reformed drunkard in England took the following combination for seven months, which he found a valuable remedy:

℞	Ferri sulphat.,		gr. v.
	Magnesia,		gr. iv.
	Sp. myristicæ.,		fl. dr. j.
	Aq. menth. pip.,	ad	fl. oz. jss.

S. The draught to be taken twice daily.

With reference to the mode of administration of drugs in treating inebriety, Dr. Kerr does not resort to hypodermic medication. He has, he states, a strong aversion to "the introduction of physic under the skin."

In many cases there are diseased conditions other than inebriety present. Where this is the case these conditions must be met. There may be a syphilitic taint, a history of malarial trouble, scrofula, anaemia, or brain-fag. "Each case is a study in itself." "No two patients will be found alike."

Dr. Kerr points out the importance of early treatment in inebriety, and especially in view of the fact that in many cases the inebriety is merely a symptom of some pathological condition of the brain or nerve centers. The symptoms of disease are often manifest long before any act of drunkenness has taken place, as, for instance, moral perversion, sleeplessness, languor, and a feeling of *malaise.* Judicious treatment at this early stage is urgently demanded. In many cases nerve-foods are advantageous, such as the phosphates and phosphites and non-intoxicating malt preparations.

(This paper has appeared in most of the Canada medical journals, and been widely circulated. An institution will, undoubtedly, soon be built. — Editor.)

Abstracts and Reviews.

THE RELATION OF ALCOHOL TO INSANITY AND NERVOUS DISEASES.

By Irwin H. Neff, M.D., Pontiac, Michigan,

Assistant Physician at the Eastern Michigan Asylum.

So many articles have been written regarding alcoholism from a medical and social point of view that it seems superfluous to present a paper with this title. My desire, however, is to bring to your attention the results of recent investigations regarding this important subject, and to review our knowledge of this relation as we at present consider it.

Directly and indirectly, alcohol is recognized as a causative agent of nervous diseases and insanity. Its influence has been variously estimated, and, I may add, the statistical value has depreciated. The popular view has been to some extent tinctured with questionable information gained from enthusiasts and advocates of the temperance cause. Although I do not wish to underestimate the knowledge gained in this way, it is to be deplored that the facts have been at times so exaggerated that the error has been made of accepting these reports as emanating from scientific sources. Some idea regarding the difficulties which are encountered may be gained when we consider that the subject is now being studied on entirely new lines. Work in obtaining valuable statistics is progressing, and it is within reason to say that in a few years the relation of alcohol to nervous and mental diseases will be partially, if not entirely, ascertained.

The ability of alcohol to affect the central and peripheral nervous systems is quite well established, and fairly accurate clinical pictures have been obtained. A typical form of psychosis is also produced by alcohol. In insanity, however, other causes are so often combined that the proportion of cases in which alcohol is a direct cause is as yet unascertained. A few facts regarding this may not be amiss.

In a late paper on this subject the difficulties are clearly set forth and treated in an impartial way. Where not many years ago alcohol was said to be a cause of 50 per cent. of all cases of insanity, it is now recognized as a factor in from 12 to 14 per cent., a considerable reduction, as we see. The author, furthermore, gives statistics from Sweden and France, where alcohol is largely used, corroborating this statement. Although the role of alcohol in insanity has been overestimated, it may confidently be said that, directly, it is a frequent cause of mental troubles. Recent statistics of the Eastern Michigan Asylum — considering all cases admitted for the last six months — give a percentage of 12.8 per cent. of all cases admitted. As alcoholism in asylums, with few exceptions, is seen in male subjects only, it would seem essential that statistics from such institutions should also give the percentage of male admissions alone. Calculated in this way, the percentage of the above cases would be 20.8 per cent.

As regards the influence of alcohol in nervous diseases we have more definite information, as the history of these cases is more easily obtained, and the causation is less often complicated. Many diseases are enumerated in which it is casually found. It is, however, a fairly constant etiological factor, and the possibility of its occurrence should always be borne in mind in nervous troubles. In our text-books on nervous diseases you will find alcohol mentioned as a possible cause in many chronic nervous troubles. It may be an exciting or predisposing cause, and thus a direct or contributing agent. Before taking up separately the forms of insanity and nervous

diseases which alcohol causes, I will briefly review its pathology.

The application of the neuron theory, which promises so much for the understanding of many obscure nervous functions, and the recent investigations on nerve-cell changes have contributed to our knowledge of the action of alcohol on the nervous system. It is now established that alcohol in small doses often causes a diminution in intellectual power and a decrease in muscular strength. The amount producing these symptoms is dependent upon the idiosyncracy of the individual. In larger doses acute alcoholism, with its train of symptoms, appears. In chronic alcoholism we find organic changes in the central and peripheral systems, with a resulting psychosis or some form of nervous disease, or perhaps a combination of both. The changes produced in the brain cells by the ingestion of alcohol have been thoroughly studied. The lesions are attributed to the direct action on the protoplasm of the nerve cell. Habitual drinking causes an alteration in the blood vessels, primarily dependent upon the special action upon the vasomotor nerves, and secondarily upon true arterial degeneration. The peripheral nerves are especially susceptible to the action of alcohol. In acute alcoholism little pathological change is observed. The symptoms are due to acute toxemia. A neuritis, generally localized, may occur, but is it believed that if this symptom does arise in an acute alcoholic, it is of toxic nature. In chronic alcoholism we find atheromatous changes in the arteries, marked degeneration in the cortical nerve cells, alterations in the cells of the spinal cords, and a neuritis, more frequently present in the peripheral system. The spinal cord lesions in an alcoholic are rare, and are more often dependent on arterial degeneration, but, as before stated, may be due to degeneration of nerve cells in the cord. It is peculiar that the degeneration in the peripheral nerves in an alcoholic is generally parenchymatous, although the interstitial form is found. Alcohol influencing the nerv-

ous system causes parenchymatous degenerations; interstitial changes, as we know, are the rule when other parts of the human system are affected. These changes naturally produce, first a perversion, then a loss of function — insanity or nervous disease appearing, of an acute or chronic type.

Insanity resulting from alcohol may be of an acute or chronic form. The nervous system in both cases is under the influence of a toxic agent. In the acute form delirium and convulsions are frequently found, and a neuritis may occur. In the chronic form organic structural changes are present, with a consequent psychic loss, with or without some central or peripheral nervous affection. The necessity of recognizing the stamp of alcohol on a psychosis is of decided importance. A large proportion of the crimes in the world have been traced to the (direct or indirect) abuse of alcohol. The probability of alcohol as an etiological factor should always be borne in mind, and, if this exists, the possibility of violent, homicidal, or suicidal tendencies developing should always influence us in our treatment. For the purpose of showing the frequency of these symptoms I would again call your attention to an analysis of fifty consecutive cases recently admitted to the Eastern Michigan Asylum. Auditory hallucinations of a depressive character are generally the primary symptom in these cases, and many of the resulting symptoms are directly dependent upon the intensity of these. In twenty-five of the fifty cases auditory hallucinations were the first noticeable symptom; in the remaining twenty-five they appeared at some time during the course of the insanity in twelve. We therefore had thirty-seven, or 74 per cent., with auditory hallucinations. Twelve of these patients made homicidal threats; thirteen proved violent; and ten threatened suicide. These cases, hurriedly chosen, give an idea of the dangerous tendencies of the alcoholic insane. These symptoms, it must be remembered, are generally of an impulsive nature, and are especially liable to appear when the confirmed alcoholic adds to his poisoned brain the effects of a

debauch. Indeed, such an individual, with his overpowering hallucinations, his delusions of persecution, and his impulses, is a subject which often demands seclusion. In concluding these remarks on the relation of alcohol to insanity, I wish to emphasize the fact that in acute alcoholism the symptomatology is dependent upon a toxemia. In chronic alcoholism structural changes, namely, parenchymatous and interstitial degenerations, have taken place. It is, therefore, obvious that only in an acute form is recovery possible.

As in insanity, so in nervous diseases, we can trace the effect of alcohol. I have already remarked that both the central and peripheral systems are affected. The peripheral system, however, shows a peculiar affinity for toxic substances, and this peculiarity is seen in alcoholic poisoning. Multiple neuritis is the form most frequently associated with alcohol. Isolated nerve palsies may occur in an alcoholic individual. Multiple neuritis may be considered as indicative of structural change. It is frequently the beginning of organic nervous disease, affecting the body in general. It should not be forgotten that mental changes are usually present in these cases, indicating degeneration in the cortical nerve cells. Multiple neuritis is frequently seen, and whenever it is found the probability of alcohol being the exciting cause should always be borne in mind. Meningitis, especially that form known as pachymeningitis, is fairly frequently seen. In asylums we see these cases exhibiting various symptoms of organic brain disease, combined with mental enfeeblement.

The connection of epilepsy and alcohol is still a disputed question. Unquestionably, the ingestion of a large quantity of alcohol may cause "epileptiform" convulsions, showing an analogy to other poisons. It is doubtful whether in an individual not predisposed epilepsy can be developed. The meningeal symptoms frequently give rise to convulsions, which may be localized or general. These convulsions are directly related to organic brain disease, and should not be classed as

epileptic. Epilepsy, as we understand it, is a disease in itself, and is not to be confounded with epileptiform attacks, organic diseases, conditions of toxemia, or other blood states. Some authorities make epilepsy a symptom. It is evident that if a distinction is not made much confusion may result. It is seen that an epileptic may cause an exaggeration of the epilepsy by use of alcohol. Cases of this nature are frequently received in asylums, and amelioration almost immediately results, which may, of course, be followed by a relapse. We also place in this category cases of epilepsy in which alcohol is the exciting cause. In these cases of so-called alcoholic epilepsy there is a predisposition to epilepsy which manifests itself under the influence of alcohol. These cases are also seen in institutions for the insane. A cure follows abstinence, and may continue until the next debauch.

Spinal cord diseases are comparatively rare in an alcoholic; degenerations in the gray and white matter may, however, occur, although it is the least liable of all parts of the nervous system to be affected. More often in spinal cord diseases alcohol acts as a contributing cause. Time does not permit me to consider the predispositions which are brought forward by alcohol. In persons predisposed to mental or nervous affection alcohol may be the exciting agent.

In conclusion, I wish to briefly allude to several questions regarding the alcoholic — both interesting and practical. The increase of diseases traceable to alcohol has been questioned. Recent statistics, however, indicate that this increase is decided. I again allude to statistics of the asylum. From the opening of the institution to the end of 1896, three hundred and eighty-four cases were admitted in which alcohol was a direct cause. During the five years immediately succeeding the opening of the asylum, eighty alcoholic cases were admitted. During the following five years eighty-one cases were committed. For the succeeding five years one hundred and seventeen were received, and during the past four years

one hundred and ten subjects were admitted. Two hundred and twenty-seven cases, or over 60 per cent., were admitted during the past ten years. When we consider that the diagnosis of alcohol as a cause is more carefully made, the results are all the more conclusive. In reference to the question whether the form of insanity has varied, I would say that the organic cases appear to predominate, and consequently dementia is more rapid. The study given to heredity and alcoholism has yielded definite and reliable conclusions. The question is an exceedingly interesting one and presents many problems which we encounter when we consider the relation of consanguinity to idiocy and degeneracy. In accepting these conclusions it must be understood that the advocates of the inherited diseases resulting from alcoholic parentage acknowledge that only the abuse of alcohol may result in these disorders in the offspring of alcoholic parents. We see here, as in other questions relating to alcohol, conservatism is at present essential. These facts seem to be established: (*a*) Alcoholism in children is due in a great part to hereditary influence. (*b*) Alcohol in children can produce hereditary insanity by producing organic changes, which changes are transmitted to the children from predispositions. (*c*) The children of an alcoholic parent or parents are frequently psychopaths, idiots, or degenerates.

In concluding this paper I offer the following summary: (1) Alcohol is a direct and indirect cause of nervous and mental diseases. (2) Alcohol primarily manifests itself on the nervous system by its toxic qualities, secondarily by structural changes. (3) In a psychosis it may occur in its characteristic type, or it may produce one of the simpler forms of insanity, or indirectly it may accelerate insanity in one predisposed. Directly it is a cause of insanity in from 12 to 14 per cent., or if estimated on the percentage of male admissions, it may reach 20 per cent. (4) The most common form of nervous disease produced by alcohol is a neuritis; convulsions, organic brain

and cord disease follow in the order mentioned. (5) Alcoholism may be inherited in its pure form, or its effects may be manifested in the offspring as degeneracy or insanity. — *Physician and Surgeon.*

THE TREATMENT OF INEBRIETY.

By A. L. Benedict, M.D., Buffalo, N. Y.

It is somewhat inconsistent that the person overcome by one drug should be in a different legal status from that of the one under the influence of another; yet the frequency of alcoholic intoxication, its tremendous financial and social effects, and the organized effort to warn against indulgence in this drug, justify the state in using means which it does not apply to the victim of the morphine or cocaine or other narcotic habit. Thus, while personally admitting that alcoholism is a disease, we believe that it is practically necessary to consider it as a crime also.

It is impossible to draw the line between the fool and the imbecile, between the wicked and the moral pervert, between the man who is quick tempered and the one who is hysterical, between the man of weak will and the one dominated by a habit. Yet the practical appreciation of degrees of difference which cannot be interpreted in any general terms is what gives one a superior understanding of the means to be employed in the treatment of the inebriate. It must be remembered that inebriety is not the same condition in all persons. The practical management of the case depends on the answer to these questions, which are often badly confused by temperance speakers: Does the man drink from love of the taste of liquor? Does he drink from love of the physiolog-

ical effect? Does he drink because his life is so miserable that partial or complete unconsciousness is pleasanter than sentient existence? Does he drink because, for none of these reasons, alcohol possesses a mastery over him which he cannot shake off? Strange as it may seem to some abstainers, a man seldom uses liquor to excess because he likes the taste of it, as he would like fruit or candy or some more substantial article of diet, and, therefore, would eat too much of it. Much more frequently alcoholism is sought to the degree of mild stimulation, and the partaker, having lost some of his power of self-control, then continues to imbibe and passes into a stage which, of itself, has no attraction for him and often is positively revolting to his tastes and judgment when he is capable of sober thought. When a man or woman uses liquor for the sake of obtaining oblivion, the hope of cure is small. It is evident that if the individual's personality has become so distasteful to himself that he cannot endure self-association, that his memories are bitter and tinged with disgrace, the temptation to drown those memories will recur, in spite of treatment; and, humanly speaking, the cure of the alcoholic habit is worse than the disease. Cure in such cases is simply a matter of asceticism, unless the primary cause of inebriety has changed to one of the other motives to drink which we have mentioned. In not a few instances persons who like neither the taste nor the action of alcohol, and who are not drawn into the habit from mere social motives, are unable to resist the attractions of liquor. If we could be sure of the good faith of persons who sue for damages claiming to have been influenced by hypnotic power to perform acts contrary to their volition, we should have a close analogue to this form of inebriety. Sometimes the social element seems to be almost the only factor in producing inebriety, the patient suffering relapses only from the more or less deliberate temptation of acquaintances. Sometimes, too, several causes act simultaneously to determine over-indulgence in alcoholic beverages.

If we can be sure that the case in question is of the comparatively rare type of taste-attraction, two courses are open: we can either give some comparatively harmless substance which shall serve as a substitute, or we can make the liquor itself distasteful by combining with it some nauseous substance which shall produce so profound a mental impression as ever afterward to be associated with the taste of liquor, or we can simply tire the patient of the liquor by giving it protractedly without resting the taste-bulbs by other impressions. The first method consists in the use of some pungent gum or fruity substance or chocolate, the stimulation of the alcohol being represented by iris, capsicum, caryophyllus, etc. The second method is carried out by mixing almost any emetic with the liquor, being careful not to defeat our end by obtaining too prompt emesis. The third method is used in some of the prisons of Scandinavian countries, the culprit and patient being fed with bread dipped in wine till the alcoholic liquor becomes loathsome. It is said that this method is curative even when the cause of inebriety is something else than the gratification of taste. We fear, however, that the loathing would soon disappear, just as it does when disgust at some solid food has been appeased by variety.

In other cases, we believe that the secret of success consists in substituting for the will of the patient some effective means of control, actual confinement being usually necessary. The Keely institutes have most happily combined surveillance without actual incarceration, suggestion, stimulation of the patient's own will-power, supporting medication, the medication tended to excite disgust at the taste of liquor. That they are unethical there is no question; that they have done some good no impartial observer can deny; that they have not always cured is established by numerous recorded back-slidings. The patient loses his desire for whisky and apomorphine, and, fortunately, he is a long time in learning that the drink of whisky and the injection of apomorphine are independent

factors which may be separated outside the hospital. He is thoroughly imbued with the fear that a return to alcoholic beverages will prove immediately fatal, and it takes him months before he overcomes this fear or is tempted into testing its validity. Once having learned that the fear is groundless, some relapse into drunkenness: others have so far recovered their will-power and their self-respect that they continue "cured." As regards drugs, strychnine and atropine fulfil all but special indications for supplying the "bracing" effect of alcohol, as far as anything on earth can take the place of alcohol for one who has learned to use it to excess.

We believe that there is urgent need for institutions midway between hospitals and penitentiaries, at which every one can be treated for alcoholism, according to his means. We believe that, without the expense of the so-called "cures," and without their objectionable methods of dealing with ethical questions, institutions may be conducted which shall be under the management of competent members of the regular profession and which will secure good results in relieving those inebriates who really desire to be cured and are willing to lend their own efforts to support those of the physician.

Finally, unprofessional as it may seem to advocate that physicians should make personal use of physiologic and hygienic knowledge, we would remind our readers that our own profession is one of the most important sources of drunkards, and that the danger which has been realized in their case is potentially present in that of every "moderate drinker." Plainly speaking, we believe it is disgraceful that nine-tenths of our profession should use alcoholic liquors purely as beverages. — *Therapeutic Gazette.*

WHAT IS AUTO-INTOXICATION?

The subject for discussion at one of the regular meetings of the Chicago Academy of Medicine was auto-intoxication and its medical and surgical relations. Dr. W. K. Sudduth,

the chairman, said: "Auto-intoxication, *i. e.*, self-poisoning, may arise from perverted cell metabolism or through deficient elimination of the ordinary waste products of cell katabolism produced in the regular course of functional activity, but which become deleterious by reason of their retention within the organism. Both conditions may be truly classed as auto-intoxications if we consider the body as a unit, a perfected whole, made up of many parts, all working together for the general good. An organ is a complicated structure and its functions are simply the sum total of the functions of the individual cells that go to make up the organ. It is, therefore, a matter of indifference, pathologically speaking, whether the poison is produced by the cells of the particular organ that is affected by the product, or whether it is evolved by the cells in some other portion and carried to the part involved by the vascular or lymphatic system. If the poison is produced within the organism by reason of some fault of the organism itself, or if the ordinary waste products of the body, which are invariably poisonous to the body producing them when retained, are not quickly removed, the result is a true auto-intoxication and comes within the scope of this discussion."

Dr. A. W. Evans defines auto-intoxication as follows: "Intoxication comprehends: 1, production of the intoxicants; 2, absorption thereof; 3, reaction thereto. The three are embraced when we speak of auto-intoxication. This is poisoning of an organism with matter produced by itself.

"Assimilation, or the making of tissue, is the passing of the simple into the complex, of stability to instability, with the storing of energy. This instability is a necessity of life. Disassimilation, divided into two divisions, death and energy, the last being a modification of death, is the passing of the complex to the simple; the instable to the stable, with the liberation of energy.

"In the building-up process the unused portions of the absorbed foods may be said with fair propriety to produce auto-

intoxication. So long as these two processes, tissue building and tissue waste, are normal, intoxication can only ensue from faulty action of the destroying organ, of which the liver is the chief, or of the eliminating organs, of which the kidney is a type. This constitutes, then, the first group, those due to faulty elimination. It applies to food remnants and to tissue waste, both normal and pathologic.

"The second group is due to errors in cell life. It has three sub-heads: 1, by some reason food elements are left unused; 2, the ash from food-burning is unusually toxic or unusually difficult to absorb; 3, the secretion of the cell is toxic.

"As you will see, poisons secreted by germs located in any recess of the body or metabolism induced by those germs cannot be considered as auto-intoxication."

PROGRESS IN GERMAN LEGISLATION FOR INEBRIATES.*

By William Bode, M.D., Hildesheim.

The 1st of January, 1900, will be a great date for Germany. For the first time in their history all German Regions and States will then have a common civil law. The new Code was finished and accepted in the summer of 1896, after more than twenty years' assiduous preparation.

Of the 2,385 paragraphs of this Code, the sixth is of great importance to those interested in the care of inebriates and to temperance reformers.

It runs thus:

The interdicted can be:

1. He or she who, in consequence of mental insanity or mental weakness, cannot provide for his or her affairs.

* Read at a quarterly meeting of the Society for the Study of Inebriety, October 14, 1897.

2. He or she who brings himself or his family into the danger of need by prodigality.

3. He or she who, in consequence of inebriety, cannot provide for his affairs, or brings himself or his family into the danger of need, or endangers the safety of others.

The interdiction is to be revoked as soon as the reason for interdiction ceases to exist. "Entmündigt kann werden.... 3 wer in Folge von Trunksucht seine Angelegenheiten nicht zu besorgen vermag oder sich oder seine Familie der Gefahr des Notstandes aussetzt oder die Sicherheit anderer gefahrdet." This interdiction on behalf of inebriety is a new principle for Germany.

It has been constantly demanded since 1883 by our German Society against the Abuse of Alcoholic Drinks, and it was first accepted by our United Governments in the Bill against Inebriety of 1891, which was framed after our requests, but has not yet passed the Reichstag. In the civil law it was accepted.

The demand was uttered for the first time, as far as I know, at the International Temperance Congress at Hanover in 1863, which resolved without dissent, on the motion of Judge Naumann of Hameln, to ask for such legislation. This Congress recommended a law that a notorious drunkard might be put under tutelage, "unter Kuratel." (By the way, Mr. Robert Rae, who is still in his vigor, was an English delegate to this Congress.)

Since the foundation of our German Society against the Abuse of Alcoholic Drinks and the recommencement of the German temperance movement, *i. e.*, since 1883, we applied to the United Governments and to our Parliament every year to get this interdiction. The Governments accepted it in 1891, and made it a paragraph of the Bill against Inebriety, which had also been proposed by our society. This bill did not pass the Reichstag, it was neither rejected nor accepted, but deferred to a more convenient time. At the same time

the interdiction was included in the civil law which was finally accepted with a great and enthusiastic majority.

Now what does this Section 6 of the new Civil Law mean? According to the same law a person of full age that is interdicted is put under a guardian, who has, with a few exceptions, the same rights and duties toward the interdicted as he would have towards a child under his charge. He has to provide for the person as well as for the property of his ward. He has the right and the duty to control his life and to prescribe his place of abode, but only as far as the purpose of the interdiction requires this.

Before a final interdiction takes place, a provisional interdiction is possible where a considerable danger to the person or the property of the inebriate is apparent.

So far the new law must, in time, change completely our present treatment of alcoholists, for there is no doubt that the guardian can send his ward into a retreat and keep him there for a sufficient time.

The different states will have to frame new laws or ordinances on behalf of the inebriates; larger and more official asylums will be necessary; there must be a provision for the poor, who are at present necessarily excluded from the benefits of our twenty private retreats. It is probable that after some ten or twenty years and some more fights the provision for inebriates will be the same as that for the insane, the idiots, the deaf and dumb, etc., *i. e.*, that the provinces will have to build the asylums and pay the larger parts of the costs for the poor.

Our present retreats will partly get an official character and become the property of the provinces or smaller states, or remain private institutions for the wealthy classes. We hope that many alcoholists will voluntarily seek a refuge there for fear of the process of interdiction and of the state asylums.

Our society has promised a prize for the best treatise on the question. What consequences must this new principle have? We hope that many able men will think the matter over and propose the new institutions, ordinances, and regulations, etc.

THE RELATION OF ALCOHOL TO LIFE INSURANCE.

By O. M. Belfry, M.D., Saginaw, Mich.

President and Medical Director Home Security Life Association.

The subject of the "liquor habit" was suggested to me as one to which I should for a few minutes call your attention. This is a very hard subject to deal with because we have so few figures to call upon as to the effects of alcoholic use on persons following the different occupations and spheres of life. The physical and moral effects are very well understood, however. We must begin with the fact that its use is on the increase. Its use has increased 20 per cent. in ten years in this country. Villard says its use has doubled in Marseilles in twelve years. Garnier asserts that, in fifteen years, lunacy in Paris has increased 30 per cent., due to its increased use. It is now used in the form of absinthe and various essences. Secret drinking is quite common among women and men of certain occupations, notably among railroad men. Occupations with long hours and great strain invite its use. We do not propose to discuss its physiological or pathological effects except in certain lines. That its constant use either moderately or to excess causes tissue and degenerative changes in every organ of the body no one will deny; such effects are most quickly noted in the brain, kidneys, and liver. These effects are shown first directly on the subject using it, and second through heredity. Its use predisposes especially to Bright's disease and insanity. Will any one tell me why these two diseases are so greatly on the increase? Insanity has doubled in the last 15 years, and Bright's disease has increased 60 per cent. Experts trace the increase to alcohol.

In the different institutions of the world where statistics are kept the death rate among even the moderate users is 33

per cent. higher than among abstainers. Our judges state that 70 per cent. of the crime and want of this country is due to its use, and medical experts say that to it is due 45 per cent. of the insanity. Such men as McKenzie of London, England, now state that it is a predisposing cause in a large number of cases of consumption. It is primarily a physiological disease, comprising:

First — Paralysis of the inhibitory power of the will.

Second — A temporary amnesia.

Third — A temporary affective and intellective modification of the personality.

All cases show defect in intellect and will. Self-constraint and self-control are weakened and finally lost. Once the former is weakened, the latter is soon lost. Having lost these, judgment and good sense are lost and a train of evil follows. They are unable, as Paul says, "to keep under the body." Every man's life is a training school. Temperate people have better and nobler thoughts, and these go hand and hand with life insurance. Drinking destroys the very inspirations that would incite a man to provide for his family; therefore, he is not a persistent insurer. He is prone to lapse. To illustrate how reason and judgment are affected, a number of gentlemen in the state of New York came together to value certain parcels of land which were to be offered for sale. They agreed unanimously upon the sum they were worth, but upon the day of the sale the owner cunningly treated then to alcoholic drinks, and one of them bid and actually paid four times as much for the property as he and his confreres thought it worth previously. A temperance man having some standing timber for public sale decided that he would not furnish any "drinks" to the bidders, as was customary. The auctioneer replied: "I am sorry, for you will lose a great deal of money, for the trees look much larger to men after they have had a drink." They lose a sense of personal responsibility for those depending on them. And now comes heredity. To deny

heredity is to deny parentage. The parent being debased and demoralized, the children are weak, are prone to lack self-control, and have lowered grades of inspiration. It is due to these influences that men now begin with poorer chances; there is a great proneness to insanity and suicide. Nerve centers are weak; nutrition is poor both before and after birth. The taint may jump over a generation and again reveal itself. Norman Kerr of London, England, says that over 90 per cent. of cases have a neurotic heredity. Fothergill says: "We are all of us the outcome of the co-operation of countless ancestral forces." We are each of us indebted for every act of self-restraint practiced by our ancestors. How, then, shall we judge the women who so commonly treat one another? Of course, the men never "treat."

What about "cures"? Bear in mind that Hammond of Washington says that no medicines or combinations of medicines will destroy the appetite for alcoholic liquors, though many medicines are of great value in some treatment, yet skilled opinion says that inebriety is curable. The result of the late craze has led physicians to the belief that a disease element exists in a substantial proportion of cases. Science and not faith or secret cures must cure it.

Crothers of Hartford and Kerr of London declared that under scientific treatment one-third of the inebriates are permanently cured; 38 per cent. were cured out of 2,000 cases at Fort Hamilton after an interval of seven to ten years. After eight to ten years 35 per cent. of 3,000 cases from the Washington Home were cured; 40 per cent. of 266 cases were cured at the Dalrymple Home in England. Others claim larger percentages. One prescription cannot cure.

We believe that the applicant's ancestry should be more fully inquired after, if the applicant drinks. It is not the quantity drunk only, but the habit, that must be judged. The environment, occupation, and age are also potent factors.

Alcohol debases, and, therefore, liquor users and dealers are unsafe risks and dangerous men. They give the com-

panies three-fourths of their troubles and lawsuits. The effect of alcohol being to institute retrogressive changes, it never ceases to undo what civilzation has slowly achieved. It destroys the insurance education we are giving to the masses. How long shall we allow this octopus to go on destroying as we build up? And now as to practice. Our company will accept certain classes of liquor users. We do not accept any of them as preferred risks. We believe, with Judge Finch, that risks are not sufficiently classified. We have three classes.

In Class 1 we have those who may use liquor in moderation, but who have no hereditary taint. They must take a twenty-payment life policy or anything higher in price.

In Class 2, those who use it in moderation, but have occasional drinking spells, and have no hereditary taint. This class must take out an accumulation policy, which takes the place of an old-line endowment. We propose to get rid of them in ten, fifteen, or twenty years. We thus hope to avoid the higher death rate that must follow in later years. Time will tell whether we are choosing wisely.

In Class 3 we place any other that we may care to accept, or who may care to accept our terms. These must take an accumulation policy on which is placed a single premium loan; it is not a very desirable contract, but it is safe for the company. We are not anxious to write those people, but may select an occasional one that we will accept. I think companies make a mistake by not having a good insurance man on the medical board, who can grade the risks as to the price they shall pay. Medical men, as a rule, are not insurance men, and it is nothing against them that they need to co-operate with an insurance man. — *Medical Examiner.*

HEREDITARY MORPHINISM IN AN INFANT.

Dr. Layne of Proctorville, O., in the *Cincinnati Lancet-Clinic* reports a case of a woman who had used morphine to allay pain at the menstrual period for six years. She used six

grains daily, and after a very severe labor was delivered of a child of normal weight and well nourished. He says in the report:

"Knowing that the babe had been receiving an indefinite amount of morphia through the placental circulation daily for nine months, the important question arose: 'Should we or should we not continue to give it in small quantities?' It was decided to withhold it for a few days to see what would happen. This we did. On the first day the child manifested no special discomfort other than a dislike for the breast, which was attributed to difficulty in grasping a badly-developed nipple in its mouth. On the morning of the second day it began to show symptoms due to withdrawal of its customary stimulant; it refused food, would not grasp the nipple, was irritable and fretful, and showed considerable tremor of the extremities. A small quantity of whisky and broth were given, but this did not seem to satisfy, and toward morning it had grown so wild and noisy that it was impossible to quiet it.

"After unsuccessful attempts at securing quiet, the father started for medical aid, but being some distance in the country, and having had some experience in giving hypodermics to his wife, he decided to try the same on the infant. Accordingly, he gave it hypodermically one-twentieth of a grain of morphia. This had no other than a distinct soothing effect, as somnolence was not induced, but the child became calm, took its food with relish, and gave no more trouble for the night. No more hypodermics have been required, but small doses by the mouth have been given from time to time when indicated.

"The child is now over three months old, and doing nicely. I saw it yesterday (June 19th), and it looked as robust and intelligent as any babe of that age I have ever seen; it weighs seventeen pounds, and is growing rapidly. Small doses of morphia are still given when required. The mother has improved in a measure, but is still far from being well.

"There are several interesting features about this case, which I desire to mention before closing:

"1. It shows clearly that the fetus *in utero* may survive despite the fact that large doses of morphia are taken into the mother's circulation, and that injections of this drug in extra-uterine pregnancy to bring about death of the fetus cannot always be depended upon.

"2. It shows emphatically that morphinism may be transmitted directly from mother to offspring *in utero*, provided the fetus survive the period of gestation.

"3. It is my belief that the appetite for the drug will be permanent. Of this I shall report in the future.

"4. It is interesting to note the large dose of morphia (one-twentieth of a grain), hypodermically, tolerated by a new-born infant. The amount through the placental circulation must have been far in excess of that, but the quantity can only be approximated.

"5. The well-nourished condition of the infant, its intelligent appearance, and the fact that it continues to thrive, are points well worthy of thought, as they show that even a potent narcotic like morphia cannot always retard or destroy that vital principle we call life."

THE INDICATIONS AND CONTRA-INDICATIONS FOR THE EMPLOYMENT OF STRYCHNINE IN ALCOHOLISM.

The following leading editorial in *The Therapeutic Gazette* is of great interest and value:

"The fact, well known to physicians who are daily brought in contact with inebriates, that strychnine is a useful nervous stimulant to many such patients has within the last few years been utilized by a notorious quack in forming the basis of a method of treatment which he has largely advertised and which has been largely advertised for him by many of the

gullible newspapers and the general public. It is simply a deduction from the ordinary laws of therapeutics that any drug possessing such powerful stimulant properties as strychnine ought to prove useful in combating the reaction and depression following acute, subacute, or chronic alcoholic excess. Under its use the tremors, the insomnia, the exaggerated reflexes, the pains in the muscles, the loss of appetite, and certain of the psychical symptoms are materially modified or put aside, and its usefulness seems to be in direct proportion to the acuteness of the alcoholism from which the patient has been suffering. That there is a particular advantage in the so-called nitrate of strychnine over the sulphate of strychnine, or any other prepared salt of the alkaloid derived from nux vomica, does not seem to us to be borne out by practical experience or rational deduction, and as good results should be obtained from the administration of proper doses of the sulphate of strychnine as are said to be derived from the use of the nitrate. It is pointed out by Combemale that there are, however, certain conditions found in alcoholics which should render the physician most cautious in the administration of full doses of strychnine. Particularly is this the case where there are profound alterations in the important and abdominal viscera, as, for example, advanced pathological changes in the liver, or instances in which there is well developed renal disease. The very condition of glandular inactivity which exists in persons suffering from alcoholism necessarily renders the elimination of this drug by the saliva, the bile, and the urine exceedingly slow, and for these reasons Combemale believes that it is liable to accumulate in the system and produce excessive manifestations later on. He therefore thinks that cirrhosis and nephritis in their chronic forms are both to be considered as partial contraindications to the use of strychnine, or, if the physician still desires to administer this drug, that smaller doses should be employed than would otherwise be used."

NEW INTOXICANT.

The New York *Sun* gives the following: "A colony of wood-choppers in Maine, it is said, were found in a state of seemingly extreme collapse. Symptoms of alcoholic excitement were first noticed among the 'bolters,' a crew of men who cut the round timbers into boards, which are afterward sawed in square spool bars. For a day or two the men acted strangely, singing and laughing about their work and making a great deal of needless disturbance. They lost their appetite for food, going all day without tasting a mouthful. Later their eyes grew bloodshot, they shook as if afflicted with a palsy, and then collapsed so they had to be put to bed.

"A physician who was called to see the patients had no hesitation in saying they were all drunk, though some of the symptoms did not indicate alcoholism. The pulse was slower and more regular than in cases of drunkenness, while the pupils of the eyes were enlarged to twice their original dimensions. The rooms of all the men were searched for liquor, and every newcomer was closely questioned, but nobody could throw any light upon the mystery. The men remained in a semi-comatose state for several days, returning to their senses and rations after repeated doses of bromide and chloral hydrate had been administered.

"Every victim denied that he had taken any liquor. When asked to account for their illness they said they believed it was brought on from eating large quantities of the great brown and red ants which they found in the hollow butts of the trees. These insects are well known in all lumber camps, where Frenchmen and others with a taste for sharp acids eat of them freely, winnowing them from the sawdust and chewing them as they would radishes, or mixing them with molasses and using them as a substitute for cranberry sauce. These ants burrow homes for themselves in the trunks of aged trees. During the summer they roam freely in the woods, but at the approach of cold weather they return to winter quarters, where

they apparently freeze up stiff and remain until thawed out in the spring. As their bodies are strongly impregnated with acid, the woodsmen eat them greedily, preferring the taste of frozen ants to cranberry or apple sauce."

COFFEE AS A RESTORATIVE MEDICINE.

Jonathan Hutchinson, in his *Archives of Surgery*, says that he has long been in the habit of prescribing coffee as a medicine in certain states of great debility. He regards it as a remedy quite unique in its usefulness in sustaining the nervous energy in certain cases. Apart from its general utility, and its well-known value as an antidote to opium, he has found it of especial service after operations where anesthetics had been used, and in states of exhaustion where alcohol had been pushed, and a condition of semi-coma followed. In these latter cases he has sometimes prescribed it as an enema when the patient could not swallow, and with the best effects. In many cases where death may be close at hand, such an expedient as this may even be the means of a permanent restoration to health. Tea and coffee seem to be much alike in many respects, but the latter is greatly preferable as to its sustaining power. It would be a great advantage to our working classes, and a great help towards the further development of social sobriety, if coffee were to come into greatly increased use, and if the ability to make it well could be acquired. As an example of the difference of effect of tea and coffee upon the nerves, the writer notes what he believes many sportsmen will confirm, that it is far better to drink coffee than tea when shooting. Tea, if strong or in any quantity, especially if the individual be not in very robust health, will induce a sort of nervousness which is very prejudicial to steady shooting. Under its influence one is apt to shoot too quickly, whereas coffee steadies the hand and gives quiet nerves. — *Medical Times.*

FORTIETH ANNUAL REPORT OF THE WASHINGTONIAN HOME, BOSTON, MASS.

Dr. Ellsworth, the superintendent, says: "I submit this, the fortieth report of this institution, which was established in the firm belief that many of the victims of intemperance, by proper treatment and restraint, could be restored to lives of sobriety and usefulness. I am glad to be able to say that the records of the work of the Home fully sustain these expectations. In reviewing the work for the year just past, we note a greater number of severely sick cases placed in our care than in any previous year. Many have been brought here complete physical and nervous wrecks. Some have become hopelessly insane and have been placed in insane asylums. I wish it were possible for the inebriate and his friends to be brought to a realization of the dangers of delaying medical treatment in the disease of inebriety. Usually, every other means has been exhausted before medical advice is asked; thus much valuable time has been lost, as the earlier a case can be treated the better the prospect of a permanent cure.

"The use of alcohol is an increasing evil. Statistics show that over one hundred thousand persons are annually destroyed by it in one way or another. The great physiologist Foster tells us that the brain is a very sensitive organ, so sensitive that even fatigue will contract the brain cells and cause fits of unconsciousness.

"There is no drug or poison which has so firm and powerful a hold on the human race, both civilized and savage, as alcohol. Its narcotic influence is simply appalling. It throws the system into such a condition that its cries are for more, more, until its victims are in such a state that it is almost impossible to cut loose from its grasp.

"Superintendents of prisons agree that alcohol is the cause of a very large per cent. of the crimes perpetrated by their prisoners.

"Mrs. Livermore said: 'I have lately made a visit to

several of the prisons about here, and I find that in the state prison for women ninety-seven out of every one hundred are there on account of drink; in Concord prison, eighty of the young men out of every one hundred are there on account of drink; and in the insane asylums sixty out of every one hundred were rendered insane from the use of liquor.'

"The United States Supreme Court states: 'The statistics of every state show a greater amount of crime and misery attributable to the use of ardent spirits than to any other source.' Still the court goes on licensing men to carry on a trade that is filling our prisons, our almshouses, and our insane asylums.

"What is most needed is educational work. The general public need enlightenment concerning the effects of alcohol upon the human system. While those who are distinctively temperance workers have been advancing in knowledge, the great body of the people remain ignorant as to the deleterious effects of alcohol, and still think there is no harm morally or physically in its moderate use. Until they can be brought to realize that it is better for themselves and others to abstain from all indulgence in alcoholic liquors, from physical, economic, and spiritual considerations, then, and not until then, can we expect them to favor action looking to the suppression of the manufacture and sale of alcohol.

"We should not be surprised that the masses of the people still look upon alcohol as a remedial agent, and possessing nutrient value, when we so often meet physicians who have not yet learned that alcohol is a prolific source of disease, misery, and crime, but indulge in its use themselves and prescribe it for their patients. It is a lamentable fact that many physicians remain ignorant of the deleterious effects of alcohol, in spite of the scientific temperance literature in the world today; consequently, great harm is continually being done by alcoholic medication. Dr. Green of Boston, while addressing a medical association in this city not long since, said: 'It

needs no argument to convince you that it is upon the medical profession, to a very great extent, that the rumseller depends to maintain the respectability of the traffic. It requires only your own experience and observations to convince you that it is upon the medical profession, upon their prescriptions and recommendations for its use upon many occasions, that the habitual dram-drinker depends for the seeming respectability of his drinking habits. It is upon the members of the medical profession, and the exceptional laws which it has always demanded, that the whole liquor fraternity depends, more than upon anything else, to screen it from the opprobrium and just punishment for the evils which the traffic entails upon society; and it is because the rumseller and the rumdrinker hide under this cloak of seeming respectability that they are so difficult to reach either by moral suasion or by law. Physicians generally have only to overcome the force of habit and the prevailing fashion in medicine to find an excellent way, when they will all look back with wonder and surprise that they, as individuals and members of an honored profession, should have been so compromised.'

"Before closing I wish to mention that, aside from the necessary repairs in the institution during the past year, Turkish and shower baths have been added, for which I wish to express my appreciation and gratitude. In an institution of this character they are indispensable.

"There is nothing that will so quickly and effectually aid in eliminating poisons from the human system as the Turkish bath. It is a great aid in quieting nervous irritability, as well as helping to procure sleep without the use of narcotics.

"I find by consulting the records that 50 per cent. of the patients admitted during the year have been graduated from Keeley institutes, or some of the other so-called gold cures, some of them having taken the treatment two and three times.

"The number of delirium cases treated during the year

have been twenty-eight; all made a good recovery. Notwithstanding the fact that we have had an unusually large number of severely sick patients, I am very glad to be able to say that there have been no deaths in the institution during the year."

IMPURITIES IN ALCOHOLIC BEVERAGES.

By Henry Leffmann, A.M., M.D., Ph.D.

A part of the energetic crusade against the use of alcoholic beverages is the allegation that many highly poisonous substances are used as adulterants. It is not infrequently said that if liquors could only be obtained pure much less harm would be produced by their use. Some years ago, when one of the Southern states undertook the paternalistic plan of conducting the sale of alcoholic beverages as an official business, the Governor, who was an enthusiastic promotor of the plan, loudly declared that he would see that only pure liquors were dispensed. Many intelligent people, even chemists, pharmacists, and physicians, have been drawn into a support of the view that, through either defective processes of manufacture or deliberate adulteration, standard alcoholic beverages have been made much more dangerous than they might be.

It will not be possible here to go into the chemistry or physiology of this question in detail, but we want to set forth the view that dangerous adulteration of alcoholic beverages is infrequent, and that some of the common opinions on the question are erroneous.

One of the most common fallacies is the supposition that fusel oil is the cause of injurious action in spirituous liquors, especially whisky. Fusel oil is a term applied to a mixture of bodies allied to common alcohol, but of higher boiling-point. Doubtless they are more injurious to the human system in equal dose than common alcohol, but the difference is not so marked. Raw (*i. e.*, recently distilled, unrefined) whisky contains

usually appreciable amounts of fusel oil. It is generally believed that age improves the quality of whisky, mellows its flavor, and renders its effects less severe. A hasty jump of two steps has been made to explain this. The effects of the raw spirit have been ascribed to the fusel oil and aging has been credited with the result of "oxidizing" it and removing it. Neither of these statements can be established as a fact. Mr. A. H. Allen, a well-known English chemist, has made several experiments on himself with fusel oil and has shown that much larger quantities of it than are likely to be in whisky may be borne without apparent effect. He also records the experience of an acquaintance who took without serious result a comparatively large dose of the substance.

It has not been shown that the aging is always attended by the removal of the fusel oil. It is often present at the last period of the process in amount but little less than originally. Unfortunately, the processes for determining fusel oil are difficult and uncertain, so that trustworthy data are not at hand. In an official investigation made a few years ago samples of uniform and known composition were distributed to some of the leading chemists of the United States, with a request that determination of the fusel oil should be made. Widely different results were returned. The belief in the specific danger of the small amounts of fusel oil seems to have no satisfactory basis.

As to other dangerous adulterations or impurities less precision is afforded by popular expression. Perhaps the most specific charges are made with respect to beer. It is well known to chemists that other bitters than hops have been used, that glucose is often substituted for malt and preservatives added. We are not aware that strychnine has ever been detected in beer. It has been often talked about. It is, indeed, doubtful if it would be an objectionable addition. It is an excellent tonic, and we know of at least one case in which a small dose of strychnine has been taken every day for years

without unfavorable results. There is no experimental basis for the view that the fermentation of glucose produces any more unwholesome substances than the fermentation of malt.

The simple truth is that the injurious material in intoxicating beverages is the alcohol, the accessory substances, mostly ethereal in nature, may modify slightly the intoxicating effect or determine personal liking for one or the other form of beverage, but no more; nor can we believe that unadulterated liquors or those made with strictest attention to purity would be less fertile as propagators of crime and disease. — *The Dietetic and Hygienic Gazette.*

De Montyel criticises the discussion at Toulouse upon the differential diagnosis of general paralysis and alcoholic paralysis. The latter is the disease most frequently mistaken for general paralysis, and as the clinical course and termination are totally different this error is a most serious one. The history is not sufficient. Many paralytics become alcoholics as a result of their disease. In the other hand those that pass as sober, may be in the habit, either at their meals or as medicine, of taking large quantities of alcohol, without at any time being intoxicated. Arnaud suggested that the diagnosis might be made first by observing the characteristics of alcoholics, that is the facies, and the visceral and nervous disturbances. In addition to these, speech is more disturbed in alcoholic paralytics by a tremor of the lips than by an actual tendency to hesitation; the attacks of vertigo and forgetfulness are more frequent, but they do not leave such serious consequences; and pupillary inequality and the Argyll-Robertson pupil are less common; de Montyel objects to the statement that these distinctions are but shades and not true differences, all these symptoms occurring in both diseases. The mental condition also varies. The alcoholic is brutal, his intelligence is confused, and he is morally indifferent, showing neither af-

fection nor regret for his crimes. Mairet lays great stress upon these differences of character; the paralytic being in general irritable and frequently violent, but manifesting afterwards keen regret for his conduct. Arnaud adds to this that he is also fond of his family, and frequently the last sign of intelligence persisting are his manifestations of delight at the visits of his wife. The alcoholic, on the other hand, shows no affection for his family. In addition, Mairet speaks of the erect carriage, but somewhat ataxic gait of the alcoholic, and the fact that his nutrition is not seriously disturbed in the early stages. A more important differential point is the mode of development of each disease, general paralysis always commencing insidiously, alcoholic paralysis frequently with great suddenness, and it is believed that this sudden development, associated with the perversion of the affections, is almost sufficient to confirm the diagnosis. These features have also been insisted upon by Charpentier. — *Philadelphia Medical Journal.*

The *Popular Science Monthly* by Appleton has become a monthly volume of most valuable studies, which are an education to the reader always.

The *Scientific American* has issued a beautiful navy supplement which gives a clear idea of every ship and its power in the navy. This is alone worth the price of a year's subscription.

The *Voice* continues to startle the solitudes of the pharisaical delusionists who imagine they have all knowledge and wisdom on the alcoholic question.

The *Homiletic Review*, by Funk & Wagnals of New York city, always brings a rich table of contents to the lay as well as the professional reader.

The Mellier Drug Company of St. Louis have issued a very excellent engraving of the first meeting of the Medical Society of London in 1773. The faces of the members are very clear

and appear to be well brought out. This picture is a valuable addition to every lover of art, and will be welcomed by every doctor's library and office. This firm deserves the warm thanks of the profession for this new addition to the history of the past.

THE TRUE SCIENCE OF LIVING: THE NEW GOSPEL OF HEALTH. By Dr. Edward H. Dewey. Charles C. Haskell & Co., publishers, Norwich, Conn. 1898.

This work of over three hundred pages is a popular treatise on sickness and health, and principally devoted to the promulgation of two meals a day as the central remedy for disease. It contains many very practical suggestions, and is a most useful book in many ways. Unlike other works of this character, it recommends no specifics or special drugs or diets, simply abstinence from food except twice a day, and no alcoholics, teas, or coffees. Such works are safe in the hands of the laity and often do a great deal of good along lines not otherwise recognized before. We have noticed Dr. Dewey's alcoholic treatment in an editorial.

THE NERVOUS SYSTEM AND ITS DISEASES. A practical treatise on Neurology for the use of physicians and students. By Charles K. Mills, M.D., Professor of Mental Diseases and of Medical Jurisprudence in the University of Pennsylvania; Clinical Professor of Neurology in the Woman's Medical College of Pennsylvania, etc., etc. Diseases of the Brain and Cranial Nerves, with a general introduction on the study and treatment of Nervous Diseases. With 459 illustrations. Philadelphia: J. B. Lippincott Co.; London: 6 Henrietta Street, Covent Garden, 1898.

The introductory chapters of this work give a very good description of the embryology, physiology, chemistry, and the anatomy of the brain and nervous system. The pathology, etiology, and symptomology, with general methods of investigations, are also very fully written, and are unusually terse

and clear. All technical terms are described and instruments are fully illustrated, giving a certain charm to the text, unusual in the technical works of the day. In the second chapter much space is given to electricity and general therapeutics. The conclusions are excellent, but the formulas given could be omitted with advantage to future editions of the work. The third chapter treats of diseases of the membranes, sinuses, and veins of the brain, and encephalic malformations and aberrations. Chapter fourth, the encephalic histology and physiology in their relations to facial diseases of the brain. Chapter fifth takes up diseases of the encephalic vessels and the vascular disturbances and diseases of the brain. The sixth chapter is on residual encephalic lesions, degenerations, and diseases. The seventh chapter treats of affections of the special senses due to lesions and disturbances of the special senses and their correlated central structures. Chapter eighth is on the disturbances of ocular movement due to lesions of the nerves, nuclei, and central apparatus of the ocular muscles. Chapter ninth on diseases of the trigeminal and facial nerves and small gross lesions of the pons and the preoblongata. The tenth chapter treats of the glossopharyngeal nerves; also of pneumogastric, spinal accessory and hypoglossal nerves, small gross lesions of the postoblongata and oblongata spinal transition, and some forms of bulbar paralysis. All of these topics are presented with clearness, some with more detail than others, and often with a critical assertiveness that indicates positive convictions of the author. The author has written the best general work on this subject, and next to Gowers, and in some respects it is more practical, it may be said to be the great book of the year. This can be most heartily commended to all as a most valuable text-book on this subject. The publishers have issued it in good taste and binding.

Editorial.

INEBRIETY AMONG OFFICERS IN THE CIVIL WAR.

General Howard, in a newspaper article, asserted that the intoxication of a general in the late war lost a battle. This has been denied, and two critics have called this an insult to the army of veterans. It will be of interest to know that two very interesting papers have been compiled from the records at Washington on inebriety among the officers. These papers necessarily deal with names and dates, and the facts they contain are so startling it has been thought best to delay their publication until the possible personal feeling which they might provoke would not follow.

While nearly all the actors in these events are dead, there are many relatives and friends living who still think the failures of these officers to be advanced and take high position was the result of intrigue and favoritism. The inebriety of the officer and intoxication when most needed were the real causes. At the beginning of the war a large number of inebriates went out as officers. They were noted at home as moderate and occasional excessive drinkers. Some of them were periodical drinkers, and many of them were very capable men. When the war began in actual conflict in the field, their disability became prominent. From these papers it appears that two classes of drinkers were prominent, one who used spirits freely at the beginning and during the battle, and the other when the battle was over. In the first class, where the officer could be provided with a supply of spirits in anticipation of the conflict, drinking moderately at first, and, when the

conflict was prolonged, using all he had freely; the other class abstained until the issue of the conflict was practically decided, then drank freely for joy or sorrow. Many officers of inferior rank were unable to procure spirits, only at long intervals; while others higher up always provided this supply. The first two years of the war was a sifting period, many of these inebriates dropped out, and in every battlefield the partial or complete intoxication of some officer was a common experience. The excitement, strain, and heavy responsibility of leading officers reacted in an alcoholic thirst, which, in many cases, was partially concealed by staff officers. The stupidity, rashness, and unaccountable failures of able men were in many instances due to alcohol. In one of the early battles the failure of the Confederates to follow up the advantage gained was specifically due to the intoxication of the officer. On another occasion a leading officer ordered a charge which was most disastrous, and before it had ended he was stupidly intoxicated. His aids reported prostration from heat. The army of the Potomac on several occasions suffered severely from these poisoned states among its officers. The armies of the Confederates seemed equally disturbed.

After a time the disability of these inebriates was fully recognized, and they were transferred to other less important positions. Some were dropped for trivial reasons; one general was sent to an inferior place to his great disgust; in reality, his alcoholic condition was most dangerous in active service. One officer still living was relieved on the battlefield for a trifling failure, but he was in reality intoxicated and therefore dangerous. At this distance these facts seem strange, but thirty years ago alcohol was considered a great stimulant and tonic, and many persons used it in times of great strain and excitement. The last years of the war the large majority of the officers in the field were total abstainers, and seldom used spirits except when in camp released from all duties. The attempt to trace some of the unexpected disasters to the alcohol-

ized judgment and mental state of the leaders in such events has been successful in several prominent cases. These facts were not clear at the time to many persons, and yet they were recorded, and subsequent events proved their correctness. The word incompetency and similar terms used to explain the charges against officers in the field in most cases meant literal inebriety. It required some bitter experiences to realize that drinking officers in the field were incompetent, especially in times of great peril and danger. Bravery and knowledge were of no moment compared with clear brains and control of themselves in times of great excitement. The world has advanced since the War of the Rebellion, and the officers of the army and navy to-day are singularly free from the alcohol delusions of those times. While no doubt a certain small number of officers are in the service who are moderate or occasional excessive users of spirits, their failures and elimination is only a question of time. War more than any other business requires the clearest judgment and the best intelligence of its leaders. While the common soldier may suffer from spirit poisoning and not imperil the interest of others materially, the officer in this condition is a very dangerous man. It is asserted and defended with many facts as evidence that a large proportion of all the disasters and useless loss of life on both sides was the direct result of alcoholic poisoning among the officers. This is stated as not unusual, but occurring in all the armies of Europe, only less prominent and among inferior officers.

In the American army a large number of officers were taken from civil life in the War of the Rebellion, and these men brought with them their personal habits and judgment. Until these were corrected and made to conform with the new conditions of life, many serious mistakes were made. Hence it would be natural to expect spirit-drinking and many other irregularities, with losses, sad and terrible in many ways. We expect to publish some of these mistakes to show the fatal errors which inebriates make, and which are overlooked and often ascribed to other causes.

SOME PSYCHOLOGICAL SYMPTOMS IN INEBRIETY.

Irrespective of all concealment there is a certain ill-definable change in the mind and conduct of inebriates which cannot be mistaken. In some cases it is extreme sensitiveness to the surroundings, reflecting every state of mental contagion and contact, either elated or depressed with every influence about them. In other cases they are indifferent and irresponsive to the present even up to the point of repulsion, which is not always clear or well defined. A reserve and silence, with a prolonged indifferent stare is marked in some cases. In some an extreme congeniality and responsiveness, in others a lack of this, with a certain coarseness and mental distance from you and the subject.

Along with this is often a certain exaltation and self-confidence of power and capacity which is unusual. He seems to develop a new self-reliant personality in regard to himself, particularly when under the influence of spirits. A certain positiveness and assertiveness of manner appear, which suggest delusion, and grow with the progress of the disease. In many cases complex delusions appear, particularly of grandeur and persecution. Often religion and hypochondriacal delusions are prominent, particularly of the value of spirits and the danger of withdrawal of them. In all inebriates there are delusional states, which, while not specifically characteristic of inebriety, always show mental disability and disease. The mind is filled with uncertain, doubtful beliefs, and conceptions of the relation of events and things. Imperative concepts, morbid impulses, strange inconsistent reasoning pervades the mind; this, with the pronounced failure of the senses to recognize correctly outward conditions, results in confusion. The inebriate, no matter what the early condition or causes which preceded the drink symptom have been, has always sensorial palsy. The senses are disabled and do not correctly interpret the relation of the surrounding, he cannot understand

and compare these relations, and hence all things appear subjectively. Everything is judged by the ego, which decides and determines, and the ego is abnormal, both from spirits and conditions behind the first use of spirits. This grows rapidly, and the power of fixing attention on any one thing long becomes markedly weaker. The eye loses its steadiness, and the facial muscles become more and more mobile or fixed. Hard lines appear, suspicious furtive acts and conduct is noticed. Concealment, with boastfulness of power and dwelling on the weakness of others, is very common. Externally, to a superficial study, no marks of spirit-poisoning may appear. Yet there are certain symptoms of palsy, of lack of power of adaptiveness, lack of control, and ability to compare and estimate without being able to define it. There is intellectual weakness, and another unknown consciousness present, literally another self with other thoughts and motives covered up. This palsy is seen often in a lowered sense of truthfulness, disposition to exaggerate, to alter the facts, to mis-statements without motive or purpose. This in some cases is almost pathognomic of inebriety. The tendency to deviate constantly from the truth, and the inability to adhere strictly to the facts in any ordinary statement, is significant of higher mental palsy. This is almost always present in all cases of inebriates, also in moderate and concealed drinkers, and appears in their language and manner of describing events and experiences. This symptom is so clear in some cases that it impresses itself on all listeners, creating doubts of veracity of the statements. The fact not well known is that all inebriates, whether concealed or open, have certain psychological symptoms of brain palsy and failure, that are unmistakable. Many persons who are called moderate drinkers have the same symptoms, only less prominent. The condition which precedes the use of alcohol and the damage from alcohol are registered on the nerve centers and nerve cells to a far greater degree than is generally supposed. Study of these first symptoms of psychological change reveals many new and startling changes.

NEW TREATMENT OF INEBRIETY.

Dr. Edward H. Dewey claims to have had great success in the cure of inebriates by limiting the time for eating to two meals a day. He believes that the origin of inebriety in many cases is in the nursery and during the first years of life. At this time the brain and nervous system is injured by food decomposition and actual poisons generated through inability of the system to utilize and eliminate the surplus nutrition. This is largely increased by remedies, soothing syrups and other drugs, to allay the irritation. The stomach is strained with the chemical changes from foods that are unused and decomposed, and the vitality is exhausted; thus permanent injuries are started which later call for alcohol and narcotics. Later the indiscriminate foods taken at irregular short intervals still further impair the nutrition and increase the sources of poison in the body. Young persons eat at all times and places most indigestible foods, and then use beers and other alcohols to conceal the distress which follows. Young men who eat more food than is essential for the nourishment of the body find some relief from beer and wine at meals, or at night before retiring. This is literally increasing the chemical changes and autointoxications and lowering vitality, creating more irritations, for which alcohol is a most grateful narcotic. The stomach and digestion generally are not only diseased but enfeebled and incapable of doing its natural work. Alcoholic and other disease come on, the nervous system and mind suffer, and serious changes follow of all the organs. The remedy for this is rest, using food only twice a day, at 11 A. M. and 5 P. M., totally abstaining in the intervals. No special foods are prescribed, except to use meat sparingly if the person is a brain worker; if a muscle worker and out in the open air, more meat can be used safely. No tea or coffee, but water and milk should be used. Foods should be simple and not complex in variety or poor in quality. Dr. Dewey claims that as a result of this abstinence all desire for spirits will cease, and the taste for to-

bacco pass away, and that in most cases a radical cure will follow. He very wisely says that this is very apparent in the curable cases, or in persons who have a sufficient vigor and mentality to remain cured after once recovering. All experience indicates that abstinence from food and improved digestion is a most valuable remedy in many cases. Impaired and defective nutrition in early life is very often a starting point for inebriety later in life. Often when inebriety has begun profound changes of digestion appear, and Dr. Dewey's plan of two meals is rational and very practical. If the specific hunters had sagacity to combine some wholesome rules of hygiene with their faith remedies, better results would have followed.

The death of Dr. I. N. Quimby of Jersey City, May 6, 1898, at his residence, removes a very active, ardent reformer, and man of unsusal force of character. He was for many years a member of our association, and on the executive committee, and his counsel and services were invaluable on all occasions. He was essentially an executive man, and a very graphic, earnest, contagious speaker. His great power lay in his magnetic personality and ability to present a subject clearly and impressively before an audience. He wrote a number of very important papers on the physiological action of alcohol, and defended his conclusions with much force. He was an eminent surgeon and general practitioner, as well as actively engaged all the time in both hospital and private practice, always finding time for reform work in lectures and papers before societies and conventions. In a future number of the JOURNAL an extended review will be given of his life and work. At a special meeting of our association at the president's office, after remarks by several persons, the following preamble and resolutions were passed unanimously:

WHEREAS, Almighty God in his inscrutable providence and wisdom has removed from our midst our friend and co-laborer, Isaac N. Quimby, therefore,

Resolved, That while we bow with humble submission to this dispensation of the Divine Will, we mourn in common with the family and friends of the deceased the irreparable loss that all have sustained.

Resolved, That in the death of our friend and associate, there has passed from our number and the sphere of active duty one who, in his life, by his professional attainments and the honest, straightforward, and fearless adherence to the principles he professed, exemplified the highest type of Christian manhood.

Resolved, That in the death of Dr. Quimby the community in which he dwelt and the state at large have lost a good and upright citizen; the medical profession one who advanced it by his high attainments and by his long practical and useful life; and his family and friends and this association one who, from a social, moral, and intellectual standpoint, was their stay and support.

Resolved, That these resolutions be engrossed and sent to the family and friends of the deceased, and that a copy be sent to "the Journal," and also published in the Journal of this association on behalf of the American Association for the Study and Cure of Inebriety.

(Signed,) L. D. MASON, President,
T. D. CROTHERS, Secretary,
C. H. SHEPARD,
Committee.

THE INCREASE OF INEBRIETY.

There can be no question or doubt that inebriety is increasing in this country. The increased consumption of spirits, notwithstanding the contrary views, and beers, and the greater prominence of all forms of nervous diseases, are facts in evidence. The coarser forms of public intoxication are less prominent, and the use of spirits at meals is unfashionable and passing away. Moderate drinkers in active life are regarded with suspicion and doubt as to their ability to execute hard mental or physical labor. The perils to health from the use of alcohol are better understood, and yet the increase of insanity, and of all forms of neurotic diseases, are significant

of new phases of degeneration from the same causes. The feeble-minded, the idiotic, the epileptic, the tramps, and the large number of defectives, from whom criminals and paupers are recruited, are traceable to alcoholic ancestors, and to alcohol alone. Few persons realize that the alcoholic of to-day is not seen on the street intoxicated as formerly, but, after an uncertain period of continuous or irregular drinking, becomes a neurotic and mental paretic, sinking to all stages of imbecility and eccentricity, dying in some hospital, leaving a defective family who are a burden on the public. The effect of alcohol on the modern man of to-day is both general and local palsy, not the sudden wild temporary insanity of intoxication, but the profound alteration and general lowering of all vital functions. Both reason and sensation are palsied and unable to judge rightly of the conditions present. The use of spirits is followed by rheumatisms and many complex acute organic inflammations with sclerosed growths of cell and tissue. The acute delirium of the brain is less prominent as the exhaustion deepens. The type of degeneration changes, and the late text-books of medicine refer to alcohol as the active and remote cause in an increasing number of diseases. Acute diseases of the lungs, heart, and kidneys are the common fatal termination of these cases. In the evolution of the nervous system, alcohol is more seductive in its anaesthetic effects and its damage more marked and less understood. The difficulty of procuring statistics increases as the grosser forms of intoxication become more obscure. In a single village where no person had come under legal restraint for intoxication for five years, ten per cent. of the mortality was due to the use of spirits. The spirits used had increased, but the open delirium and intoxication had diminished. The mortality from the use of spirits is rapidly increasing, and the moderate and excessive user of spirits die early or disappear in some hospital. The increase of inebriety is apparent in many ways, but, fortunately, public sentiment is breaking up many of the delusions which are associated with the use of alcohol.

Clinical Notes and Comments.

THESES ON THE ALCOHOLIC QUESTION.

By Dr. A. Forel,

Late Professor of Psychiatric of the University of Zurich, and Director of the Lunatic Asylum, Zurich.

1. The alcohol question is a hygienic, ethical (moral), and social question of the greatest importance to the healthy development of our people.

2. Formerly, by reason of insufficient knowledge, this question was diverted into wrong channels, and has since, by habit, prejudice, and heedlessness, been put aside; and so all attempts to introduce a general temperate use of alcohol have been unsuccessful. We will briefly enumerate certain facts established at the present day.

3. Alcohol, or etyhl-alcohol, is a poisonous matter, both for the human and animal organism; its venomousness increases with the amount and frequency of the doses. But even when partaken of in the most temperate way it plainly interferes with the functions of the various organs; it cannot be regarded as being either nourishing or strengthening; and therefore, as it is of no use whatever in a normal diet, it cannot be counted as a factor of the same.

4. In all fermented and distilled beverages the ethyl-alcohol forms the chief poisonous ingredient in beer, wine, cider, and all kinds of spirits, whether they be so-called "pure" or adulterated. "Absinthe" alone contains another poison which has considerable effect. Fusel and similar impurities

are present in spirituous liquors in too small quantities to increase the virulence of the ethyl-alcohol to any great degree, as has been indisputably proved by the experiments of Strassmann and Joffroy, as well as by the experience of the asylums for inebriates.

5. The careful experiments made for many years by Kraepelin, Smith, Fürer, Aschaffenburg, and others, who operated on people with weak doses (10-40, even only γ. k. cm. diluted ethyl-alcohol) are equally undeniable, proving that even such small doses clearly diminish the mental functions; that is, they make them slower, increasing the number of mistakes made, and lessening the power of concentration, reflection, the association of ideas, the memory, and logic. The senses are deadened, which in certain disagreeable feelings, such as pain, cold, and heat, may be found pleasant. This poisonous effect, together with the following one, deceives us and gives us after partaking of alcohol an illusive feeling of well-being and strength.

6. From the experiments made by Parkes, Kraepelin, Frey, Destrée, and others; in the experience of the English armies in Egypt; in Nansen's almost totally abstaining Polar expedition; in all sports, such as mountaineering, cycling, foot races, etc.; in comparing the experience of abstainers of all countries, it is just as clearly shown that muscular strength or power is paralyzed, that is, decreased by alcohol. In strong doses the effect is seen at once, and to a considerable degree; in very temperate ones, only after a short period (ten, or at most twenty or thirty minutes) of acceleration or increase of power. This last appears more as a passing nerve stimulant, and is outweighed by the consequent paralysis. Only in one point non-essential to us is there any difference. Frey lays stress on the importance of the first transitory increase of power after very moderate doses, but only in case of already exhausted muscles; while Destrée finds it everywhere, but quite immaterial. All experimentalists are fully explicit and agreed that even the

smallest doses of alcoholic beverages are detrimental to all continuous exercise of the muscular as well as the mental faculties.

7. Life is considerably shortened by the use of alcohol in large quantities. But a moderate consumption of the same also shortens life by an average of five to six years. This is consistently and unequivocally seen in the statistics kept for thirty years by English insurance companies, with special sections for abstainers. They give a large discount, and still make more profit, as not nearly so many deaths occur as might be expected under the usual calculations. According to Federal statistics, in the fifteen largest towns of Switzerland over 10 per cent. of the men over twenty years of age die solely or partly of alcoholism.

8. Diseases of all kinds are hastened and run a more serious course, often a fatal one, in consequence of the habit of drinking alcohol. For proof one need only turn to the sick funds belonging to temperance societies, and the much smaller mortality among the abstaining section of the English army, as well as the experience gained by many a sick bed.

9. Alcoholic poisoning is the direct cause of disease and death. It is of two kinds: acute or drunkenness, and chronic — chronic alcoholism — by incessant and great use of alcohol. One or the other of the organs becomes first ruined by alcohol, according to the disposition of the same in different people. Particularly liable to ruin is the mind; then the heart and blood vessels, stomach, kidneys, and sexual glands. Consequently, inebriates end by dying sometimes of delirium tremens or idiocy, sometimes of fatty degeneration of the heart and dropsy, or of alcoholic liver and kidney diseases caused by the fatty degeneration and shrinking of these organs. With a moderate use of alcohol things may not go so far, but these organs, especially the brain and the stomach, suffer more or less according to the quantity taken and the power of resistance in the individual. The evil, moral, and social consequences

of the alcoholic habit, such as insanity, crime, economic ruin, and the degeneration of the offspring, are caused by the alcoholic poisoning of the brain.

10. About 30 per cent. of the male cases in lunatic asylums where inebriates are taken in may be classed as direct alcoholic lunacy. The indirect victims of the drunken habits of their ancestors, no doubt, form a much larger but an incalculable number of the inmates of such asylums.

11. According to Federal statistics about 30 per cent. of the male suicides may likewise be traced, wholly or partly, to the consequences of drunkenness.

12. About half the number of crimes and three-quarters of those against the person are, according to voluminous statistics (Baer and others), committed when under the influence of drink. Where the reform of partial abstinence is carried out (Maine, etc.) the number of crimes is considerably decreased. On the other hand, where the consumption of alcohol is very great, crime is just as highly on the increase (France). This may be seen in the comparison of the consumption in single towns or parts of the country (Massachusetts). Also, as to the frequency of crime on Saturday, Sunday, and Monday evenings (Lang), the experience of examining magistrates and experts in criminal affairs agree, and the newspapers daily confirm it.

13. The examinations and experiments made by many lunacy doctors, and also by the specialist for children, Dr. Demme, have long proved that the descendants of inebriates, in consequence of the alcoholic degeneration of their sexual glands, shows a frightful number of idiots, dwarfs, madmen, epileptics, feeble persons of all kinds, and drunkards. This experience has lately been confirmed in a very drastic manner by the experiments made by Hodge on dogs which were artificially alcoholized.

14. All statistics prove that much poverty is caused by drunkenness and that drunkenness occurs at least as often among the rich as among the poor.

15. Indirectly, secret diseases, extravagance, idleness, shallow-mindedness, and ruin of family life are furthered by the habit of drink, and the moral principles of society become more and more degenerated and destroyed.

16. The political economic balance-sheets of the production and consumption of alcohol show a terrible deficit, not to say national bankruptcy. Switzerland, taken all in all, drinks annually far above 200 million francs. The import considerably exceeds the export. Stated as a bare fact, we pay foreign countries far more for alcohol than we receive from them, and the income of Swiss brewers and vine-brewers, as well as distillers, comes entirely out of the pockets of other Swiss, who beyond and above this pay also to foreign countries. And all this to poison and harm our people, and convert useful articles of food into alcohol and so on. He who shuts his eyes to these truths must be blind. Abstainers are really no enemies to the cultivation of the vine, for they increase the consumption of fruit and unfermented fruit juice, while on the other hand chemistry is daily improving the method of producing wine by means of alcohol.

17. The moderate use of alcohol can only be gradually and quite incompletely separated from its misuse. The use of social poison is in itself an abuse. Hardly any drunkard wishes to be or to become such. Imperceptibly and unconsciously he is led into it by the weakness of his own brain and the example of others. Every glass lessens his power of reasoning and resistance; not he himself, but the general drinking public are, in his opinion, guilty of and responsible for his drunkenness.

18. The increasing number of abstainers has already sufficiently proved that conviviality is quite possible without alcohol. If we consider that when a more or less dull society makes use of alcohol to enliven it, the exhilaration is gained at the expense of poisoning the brain, this social abuse condemns itself.

TOBACCO NEUROSES.*

By Philip Zenner, A.M., M.D., Cincinnati.

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The use of tobacco when first introduced into civilized countries met with much opposition. Popes and kings attempted to interdict it, and as late as the seventeenth century it was prohibited by law in Turkey and Persia, where its use is now almost universal. Even to-day there is a wide divergence of views as to the effects of its constant use, some seeing no limits to its ill effects, while others believe it does no harm whatever. But such extreme views are held by few, while the most recognize the fact that excessive use of tobacco may be, and often is, the cause of disease. Nevertheless, it is but too common that this source of harm is not recognized. We are prone to overlook a habit which is almost universal, to forget the ill effects of an agent that is constantly under our eyes. I will briefly mention two cases recently under my observation to emphasize the truth of this statement.

The first, a man, forty-five years of age, had been suffering for a long time with attacks of vertigo, some unsteadiness of gait, and other nervous symptoms. He had been treated for months by a physician of high repute and large experience, who had wavered much in his opinion, but finally diagnosed grave organic disease. The patient had been addicted to excessive smoking. I ordered him to discontinue this altogether, and he was soon in comparative health.

The second case, a man of fifty, had suffered periodically since he was fifteen years of age with various nervous symptoms, of which vaso-motor disturbances about the face, insomnia, and digestive disturbances were the most prominent. Such symptoms would remain with him a year at a time. He had been an immoderate smoker from boyhood. When he

* *Cincinnati Lancet and Clinic.*

consulted me I immediately prohibited smoking, and his symptoms disappeared as if by magic.

These two cases — one, after prolonged observation, pronounced to be organic disease by a diagnostician of highest repute; the other treated by many physicians during long years of suffering without recognition of the cause — illustrate only too forcibly how easily we overlook tobacco as the cause of disease. It is for that reason, and in order to bring the subject once more before the profession, that I present this paper to-day.

Tobacco, taken internally, is one of the most deadly poisons. Nicotine is said to kill more quickly than any other poison, excepting prussic acid. According to experimental studies on animals and observations on man, it directly affects the central nervous system, the brain and spinal cord, as well as the peripheral nerves.

Symptoms of its effects on the central nervous system are impairment or loss of consciousness, inco-ordination, convulsions, abolished reflexes, and paralysis. Anemia of meninges and changes in the cortical cells have been seen. Symptoms on the part of the peripheral nerves are peripheral paralyses, cardiac manifestations — the terminal filaments of the vagus are first stimulated and then paralyzed — pupillary and other manifestations on the part of the sympathetic nerves, etc.

The blood is, especially, affected — changes in blood pressure, in the red and white corpuscles and the hemoglobin. The cells become crenated and partially disintegrated, and their movements and numerical relations disturbed. The hemoglobin is reduced in quantity, or its oxygen-carrying power lessened.

Tobacco also affects the alimentary canal, salivary glands, kidneys, etc.

In studying the injurious effects of tobacco upon the nervous system we may confine our attention chiefly to smoking; for chewing, though it often leads to digestive disturbances, far less frequently causes nervous diseases.

The most important ingredient of tobacco smoke is nicotine, to which its injurious effects are, doubtless, largely due. Jacoby believes that carbonic oxide, of which the smoke contains from 5 to 13 per cent., also plays an important rôle, chiefly by lessening the oxygen-carrying power of hemoglobin.

The poison of tobacco is stronger in cigars than in pipes or cigarettes. The chief injury of the latter is from the fact that they are smoked so much by the young, and perhaps, also, they frequently lead to excessive smoking.

The amount of nicotine in tobacco varies from 2 to 8 per cent. Good Havana has 2 per cent., and is, consequently, least injurious.

Most individuals soon acquire a toleration for tobacco, and continue to use it, henceforth, without appreciable harm. It becomes a question, then, why others are injured by it. In some there is, probably, a special idiosyncrasy. In others the explanation must be the super-saturation of the system with the poison from excessive smoking, this condition usually becoming manifest after many years' addiction. This does not predicate a definite period of time, nor a given amount of tobacco, for what appears to be moderate smoking might be excessive to some individuals, and *vice versa*. Those of a neurotic temperament are likely to suffer most readily. It appears, too, that those who lead a sedentary life, or are much in smoke-laden atmosphere, or are accustomed to inhale the smoke, can bear less than those who live in the open air, or do not inhale the smoke into their lungs.

Tobacco is especially deleterious to the young. It often seriously impairs the general health, as well as causes pronounced nervous disease. Two young men, at present under my charge, illustrate the injury of tobacco to the young, though not its severest forms. The first, a man of twenty-two, has been suffering for five years with neurasthenia, the chief manifestations of which are the various *phobias*, fear of going into public places, a vague sense of fear at all times, etc. He was

what he termed "a cigarette fiend," began smoking when twelve years old, smoked excessively, and continued to do so until some years after the inception of the present illness. The second case, sixteen years of age, has been suffering for three months with nervous spells. He began smoking at fourteen. I should add that in both of these instances it was the custom to inhale the smoke into the lungs.

The two cases just mentioned are not distinct cases of tobacco neuroses, but I do not think there is any doubt that in both the tobacco had weakened the nervous system, so that it became more easily a prey to other sources of disease. This is a fact I wish particularly to emphasize, that in many instances tobacco is only one of various causes of the existing malady; yet had it not been present possibly the disease had never become manifest, and its removal may be an important aid in treatment.

Among the other factors that often act conjointly with tobacco — and they may make it difficult to tell what effects are due to the latter alone — are alcohol, coffee, mental strain, worry, etc.

It is true of syphilis, and many other injurious influences, that they are likely to attack the *locus minoris resistentiae*, and the same is very likely true of tobacco. This, in part, explains why it affects some individuals differently from others, and will explain, too, why cases of functional and organic heart disease, neurasthenics, etc., often bear tobacco poorly.

The nervous diseases which have been most distinctly traced to tobacco are functional disease of the heart, amblyopia, tremor, vertigo, neurasthenia, some forms of neuralgia, angina — perhaps I should say pseudo-angina — and lesser nervous disturbances. Epilepsy, various psychoses, even paresis, have also been attributed to it, though without sufficient reason. Yet it is not improbable that excessive smoking might predispose to such diseases.

One should bear in mind that obscure conditions, not em-

braced in this category, may be partly or altogether due to tobacco. Also I have not referred to transient symptoms from temporary excess, such as headache, irritability, tremor, etc.; nor to the anemia so often induced, with its concomitant symptoms.

The diagnosis is, at times, very clear. In most instances the patient does not need the physician to diagnose or cure his condition. In other instances — I have given some illustrative cases — the cause is obscure, and only the effects of the abstinence from tobacco may reveal its influence. In all cases of doubt the patient should have the benefit of such a trial.

The treatment is entire abstinence. The mere lessening of the amount of smoking often fails altogether. Frequently, after entire abstinence for a year or more, tobacco may be used again moderately without harm.

THE AFTER-EFFECTS OF OPIUM OR ITS DERIVATIVES AND OTHER HYPNOTIC SUBSTANCES.

There is no doubt that in opium and its derivatives the medical profession possess drugs which on the one hand are of the greatest benefit to mankind, and on the other often prove a source of much suffering, discomfort, and ill-health. In the presence of agonizing pain which no other remedy but a general anæsthetic can relieve, opium or its alkaloid morphine still maintains, and perhaps always will maintain, the foremost place in our materia medica list as a source of relief. Yet the most experienced physicians realize the fact that in many instances they are prevented from administering it, by reason of the fear that its after-effects will cause the patient to consider the remedy worse than the disease. These after-effects, which consist in profound depression, nausea, vomiting, and general malaise, often last much longer than the attack of pain would have lasted had opium not been given, and in very sus-

ceptible persons, particularly in nervous women, they may be so severe as to be positively alarming. Then, again, every physician constantly has before him, when about to prescribe opium, the possibility that his hypodermic injection of morphine may be the first impulse toward the development of that curse of the human race, the morphine habit, and as a general rule the morphine *habitué* tells us that the first doses of the drug which he received were given under the directions of his attending physician.

If because of the severity of the pain the physician decides that it is necessary to administer opium or morphine for the production of sleep, the next point of interest to him is the method which he should resort to for the treatment of the after-effects which will appear within twelve or twenty-four hours. In the first place he should remember that, according to a number of experiments and clinical researches both in this country and abroad, some of which have been published in the *Therapeutic Gazette*, morphine is eliminated by the stomach, and from this organ absorbed in the system. In other words, a dose of morphine having been given hypodermically, the gastric fluids soon contain it, and if they are not vomited the morphine is once more absorbed, only to be a second time eliminated. For this reason it is well, when the nausea of the after-effects of opium develops, to encourage rather than discourage the act of vomiting (unless it becomes excessive), as in this way the patient is enabled to rid his system of the material which is producing his discomfort. Often it is advantageous to give warm water or other liquid, by means of which he can wash out his stomach in the act of vomiting. After vomiting has taken place, it remains for the physician to overcome the condition of nervous depression, and to remove the nausea, which probably depends to a large extent upon some influence of the drug upon the vomiting center. For this purpose there is no better remedy than a cup of strong black coffee taken as hot as the patient can swallow it in teaspoonful doses,

followed in the course of fifteen to twenty minutes by another cup, and this in an hour or two by one or two teaspoonfuls of the elixir of celery and guarana. Should these stimulants produce much nervous excitement, their action upon the reflex activity can be decreased by the use of small doses of the bromides, which will also tend to remove some of the symptoms produced by the opiate.

It is also important that any tendency to constipation shall be relieved by the use of some saline cathartic, that the kidneys be flushed by frequent drinking in small quantities of some one of the mild diuretic mineral waters, and that all foods containing milk be avoided, beef-jelly, made into beef-tea, or broths being employed to the exclusion of milk preparations.

It is unfortunately true that nearly all of the so-called hypnotic or somnifacient drugs which have been introduced into medicine within the last twenty years also produce after-effects which frequently hinder the physician from administering them when they are otherwise indicated. This is particularly true of such remedies as sulphonal and trional, which not only act very slowly in some cases, but which prolong their action, in a half-hearted way, for many hours after the true sleep which they have produced has passed by. It is by no means uncommon, when either of these remedies has been given for insomnia in the evening, to find that the patient has slept heavily during the night, and when the physician sees him in the morning he is neither asleep nor awake, conscious of everything that is going on around him and yet in an uncomfortable state of semi-consciousness and lassitude. If walking is attempted, the patient finds that his gait is somewhat ataxic. He is apt to stagger if he stands still, with his eyes shut and his feet close together, and any mental effort is practically impossible. Under these circumstances we have found that the best treatment is once more the administration of one or two cups of strong black coffee, followed if necessary by the elixir of guarana and celery.— *Therapeutic Gazette.*

SUPPLIED BLOOD FOR CHRONIC ALCOHOLISM, GASTRITIS, AND DELIRIUM TREMENS.

In the treatment of chronic alcoholism, the blood treatment has been put to the severest tests and has not been found wanting. Begin with 10 to 30 drops in a little carbonized water every thirty to sixty minutes; continue these small doses until the stomach has become settled; then it may be given in milk in from one teaspoonful to two tablespoonful doses, six to ten times in twenty-four hours. The continuous use of bovinine and good milk has cured and will cure the alcohol habit. The morphine habit can be cured in the same way, for it is a principle well established in the treatment of both chronic alcoholism and the morphine habit that in the ratio that the functions of nutrition can be brought up to a normal standard, in that same ratio will the desire for either alcohol or morphine subside.

CASE: By the Editor of *Modern Medical Science.*

I have been for ten years past intimately acquainted with a gentleman afflicted with hereditary alcoholism aggravated by habit. Periodically — or sometimes out of period, through some cause of unusual excitement — the onset would occur, when a single glass of liquor would suffice to instantly degrade a bright and cultivated intellect to maudlin imbecility with as little self-direction or self-respect as the howling wind. In fact, I have seen all this when I knew that nothing alcoholic had passed his lips. But whether with or without an initiatory glass, the inevitable storm went on throughout the completed cycle of debauch.

But there came a time when various severe constitutional or functional disorders began to prevail, and the paroxysms became furious, with horrid delirious hallucinations. The attacks became more frequent and were heralded by loathing of food, sinking and faintness at the stomach, deadly pains in the chest, struggling for breath, etc.; relieved in the old way, by a

determined resort to the whisky bottle, with aggravated consequences of protracted debauch and delirium, terminated only by exhaustion which came so near to death that it often seemed as if all was about over. The disease of alcoholism had been all along complicated in a measure with the opium habit.

Able physicians were now doing all they could for him. Nitrite of amyl revived him from the syncope of suffocation, and the compound tincture of cinchona bolstered him up from one attack to the next, as a substitute in part for the more inflammatory whisky. All the anti-alcohol and anti-opium palliatives known to the profession had been already exhausted in vain on the milder stages of the case. Despair settled down on the family and friends, not only for him but for themselves.

It was at this time that the dawning revelation of Hæmatherapy struck upon the special field of alcoholism. The testimony of Dr. Brackett of Boston, and others who had nursed such cases back to health on bovinine (live ox blood), came as a ray of hope. Bovinine and milk at frequent intervals now became the diet of the inflamed and degenerated stomach that could relish nothing and bear hardly anything. The attacks were soon diminished in frequency and in their desperate character. By and by, it became possible to abort them entirely at the onset, by steady blood treatment, without the aid of stimulant or tonic. The only relapse that has occurred was the result of an ignorant interruption of the treatment by a person temporarily in the place of the proper nurse. It was a bad relapse, for the time, but was speedily overcome by the restored elixir, and now, for nearly two years, the man has been himself, in total abstinence all the time. This, notwithstanding the condition of a system debilitated and racked, in old age, with the varied disorders consequent on the terrible abuse of his own and previous lives; disorders so severe that it seems as if he must succumb to them apart from alcoholism, but for the constantly revitalizing and reconstructive supply of foreign blood.

STUDIES FROM A BRITISH BLUE BOOK OF THE MORTALITY FROM INEBRIETY.

Cleveland Moffett, in an analysis of a British Blue-Book statistics of deaths in England during 1890, 1891, and 1892 draws many interesting conclusions. He finds that in a comparative mortality table that the dispensers of alcohol, who head the list, die of its effects from three to ten times faster than the average of occupied males, three times faster for the brewer, and ten times faster for the London hotel servant. On the other hand, the mortality from alcoholism among agricultural laborers, railway men, iron and tin and coal miners, clergymen, fishermen, and others is far below the average, only one-third or one-fourth of it, while in the case of soap manufacturers, lead workers, copper miners, and carpet manufacturers, no deaths whatever are recorded from alcoholism. The mortality among publicans in London, according to Moffett, is nearly double that of all occupied males for the former class, inasmuch as they die nearly 10 times as fast from alcoholism, 5½ from gout, 3½ from diabetes, 3¾ from liver diseases, and more than twice as fast from phthisis, rheumatic fever, and suicide. Our statistician especially points out also the glossing over of the real causes of death due to alcoholism by a simple statement of a mere pathologic condition. He cites cirrhosis of the liver as a particular instance to the point, and suicide as another. In the British Empire as well as in the United States we may add that the sentiment of survivors may have more to do with the pardonable falsification than scientific accuracy. Society in the main contents itself with the penalty of crimes only against itself. Further, the analyst before mentioned betrays a certain animosity toward musicians since in their sad addiction to intemperance they die more than twice as fast as ordinary men from alcoholism, a little below that average from phthisis, and very much more rapidly from liver and nervous diseases and suicide. To the heightened death rate of commercial travelers he gives a pass-

ing allusion, despite the mitigation of time spent in the open air. By a between-the-lines reading of the interesting report and a grouping of figures given we may conclude without much effort that our length of days depends upon a variety of environments which we may ourselves control. — *The Journal.*

STATISTICS FROM "L'ALCOHOL."

Belgium, with 6,500,000 inhabitants, possesses 195,000 saloons, in which 75 million litres of gin are consumed, costing the nation 150 million francs (thirty million dollars).

Out of this population there are, every year, 200,000 cases of sickness due to the abuse of spirits.

The number of people who succumb to the excessive use of alcoholic beverages is put at 20,000.

While from 1870 to 1894 the population increased 24 per cent., the consumption of gin has increased 54 per cent., and with it have increased cases of insanity, 90 per cent.; criminality, 52 per cent.; suicides, 129 per cent.; mendacity and vagabondage, 123 per cent.

And Belgium is far from being in the first rank on the list of countries ravaged by alcohol.

ALCOHOL AND THE INSANE.

Many of the French insane asylums are drunkards' paradises. At the L—— asylum in 1891 the consumption of brandy was 2,938 litres for a population of 727. In 1897, for a population of 705, the consumption rose to 3,895 litres.

Patients entered for alcoholic insanity rose from seven and eight in '91 and '92 to nineteen and twenty in '96 and '97.

For more than fifteen years the patients have been allowed to buy café-eau-de-vie from the kitchens. Each inmate receives at one time a half litre of eau-de-vie; this is the bi-weekly allowance, *i. e.*, twenty-six litres a year, without counting extra consumption. From "L'Alcohol." *Organe des Sociétés fédérées contre l'usage des Boissons spiritueuses.*

ALCOHOL AND INFANTILE CONVULSIONS.

Meunier describes a case of infantile convulsions (*Journ. de Méd.*, April 25, 1898). The patient was a child five weeks old, whose parents were both perfectly healthy, there being one child older. A wet nurse had been engaged, who was to all appearance quite healthy. The most careful examination failed to reveal any of the ordinary causes of infantile convulsions. There was no elevation of temperature nor abnormal disorder. The attack began with anuria, lasting for a whole day. It was only as the result of most careful investigation, and, after changing the nurse, that the discovery was made that the first nurse engaged was in the habit of consuming about two litres of wine daily. The writer lays down the following observation in connection with this case and others, that alcoholism on the part of the nurse is a competent cause of convulsions in a breast-fed child; that such convulsions are preceded by nervous irritability, general hyperæsthesia, but without gastro-intestinal derangement, elevation of temperature, or pulmonary complication. They are apt to appear in extremely well-nourished children. As regards the fits, they show marked tendency to increase in number and severity. In some instances there may be anuria. Under such circumstances it is necessary to inquire carefully into the habits of the nurse, and to make a change as early as possible.— *British Medical Journal.*

HEREDITY IN RELATION TO LIFE INSURANCE.

Dr. Weber, in an address before the Life Insurance Medical Officers' Association, makes the following interesting reference:

"Dipsomania is, no doubt, often an inheritable disease of the nervous system, and its occurrence among the parents or older brothers and sisters must induce us to make the strictest

inquiries into the personal history, manner of living, and all the surroundings of the proposer. Fixed rules cannot be laid down as to extras. Other forms of alcoholism are often allied to dipsomania, and require similar consideration. A very remarkable proof of heredity in alcoholism has occurred to me to-day. I had to examine, at the North British and Mercantile Insurance Office, the life of a prison chaplain. When I asked him whether he could ascertain the circumstances which had led to crime among his prisoners, he said that in at least 90 per cent. it was drinking, and that the element of heredity was truly awful. He had had the father, a distinguished lawyer, and two of his sons, likewise lawyers, and he thought that a third one was coming. You will agree with me that there is here another element, that of example, just as Dr. Heron insisted on the infection element in phthisis. The latter may be called microbic infection, the former moral infection, at least until a microbe has been found for dipsomania. This example or infection, however, explains only a few cases. Often the parents have died while their offspring were mere children, and yet the latter became alcoholic. A curious circumstance of this heredity is that the effects of alcohol are mostly very similar in the children and in the parents; in some epilepsy, in others suicidal or homicidal tendency, in others kleptomania, in others peculiar sexual aberrations."

EFFECT OF TEA CIGARETTES.

Tea cigarettes are of a grade of green tea which has but little dust, and is composed of unbroken leaf. This is dampened to make the leaves pliable and capable of being stuffed in the paper cylinder, while the dampness is not sufficient to stain the paper. The cigarettes are laid aside for a few days and are then ready to be smoked.

The feeling of a tea cigarette in the mouth is peculiar. The taste is not so disagreeable as might be supposed, but the

effect on the tyro is a sense of thickening of the head and a disposition to take hold of something or sit down. If the beginner stops then, he will not try tea cigarettes again. If, however, the smoker sits down and tries a second cigarette, inhaling it deeply, then the thickening feeling passes and is succeeded by one of intense exhilaration. The stage lasts as long as the smoke continues.

The agony of the opium fiend is a shadow to that of the nauseated victim of the tea cigarette. Food cannot be looked at for hours, yet the first step towards a cure is a cup of tea. An hour afterward comes the craving for a cigarette.— *Medical Progress.*

CHRONIC INTOXICATION FROM TRIONAL.

Gierlich describes the case of a man who had been an excessive drinker of beer and afterwards used morphine habitually to a moderate extent. To relieve his insomnia he began to take trional, 1/50 gram every evening for two months, amounting to eighty-four grains in fifty-six days. At the end of a month he found he had some difficulty in writing. In a few days his speech was also affected, he staggered as he walked, and required a support. The movements of his members resembled those in ataxia, with trembling of his hands, feet, and facial muscles. He complained of a sensation of oppression, buzzing in his ears, and spots before his eyes, while spirits and mind were profoundly depressed and weakened. Several times he had involuntary micturition and evacuations. In speaking he transposed letters and syllables, and his writing was incoherent. With the suppression of the trional gradually all these symptoms passed away in the course of three weeks, but not until the fourth to fifth week could he write as before the attack. Gierlich advises against the prolonged use of trional. The doses should be rapidly diminished or interrupted for a day or two at intervals.— *Health Journal.*

STRYCHNINE IN ALCOHOLISM.

Federoff (*Rev. de Therap.*, June 1, 1898), who has employed strychnine in the treatment of twelve cases of alcoholism, has noted the following results: (1) The catarrhal symptoms subside more rapidly than they do in the cases in which the patient is deprived of alcohol and submitted to a strict regimen. (2) The neurasthenic attacks are favorably influenced by the strychnine, and the insomnia, as far as it is dependent upon nervous causes, soon disappears, the strychnine acting better in this respect than the usual hypnotics. Sleep becomes normal at the end of five or six days. (3) The senseless anger and the irritability which characterize alcoholics progressively subside. (4) The depression of spirits gives way to a more tranquil state of mind and the patients become courageous. (5) Other morbid symptoms, particularly the migraine, also pass away. (6) Unfortunately, the chief symptom, the craving for drink, is not influenced to any marked degree. "So that," says the writer, "though one must acknowledge the good effect of strychnine upon the nervous phenomena of alcoholism, it cannot be spoken of as a specific for this disease."— *Medical News.*

The hypnotic effect of Bromida does not by any means represent the sole benefit to be derived from this preparation, but it meets, in a very perfect manner, many other indications involving hyperæsthesia of nerve tips and over-excitability of spinal cord. In doses of one-half teaspoonful, given every four hours for two days, will so benumb the sensory nerve tips of the buccal cavity that dentists can take impressions of the mouth, fit in rubber dams, etc., that would otherwise be impossible on account of the gagging peculiar to some patients. In the hands of the medical practitioner, given in half-teaspoonful doses every four hours, will make life endurable for hay-fever patients during the months of August and September.

TRUE AMERICANISM.

Physicians and pharmacists, like the masses of the people, have tired of the arrogation of superiority implied by the announcements of foreign manufacture, and are revolting against them. This spirit is especially commendable at the present time, when a vast wave of patriotism is rolling over the land, making the North and the South, the East and the West as one band of brothers by its magic influence. The Antikamnia Chemical Company of St. Louis, in all of its advertising matter, whether through the journals or by circular, takes particular pains to impress upon physicians and pharmacists that its goods are made in America, by Americans, and for American use. This enterprising company realizes that the words "made in Germany," or "made in France," no longer possess the influence and meaning they once had. The people of this country no longer scorn or underrate the products of their own native laboratories and workshops.— *The National Druggist.*

"Schenk's Theory: The Determination of Sex." As announced by an Associated Press dispatch from Vienna several days ago, The Werner Company has secured the copyright privileges of Professor Schenk's book on the Determination of Sex both in the United States and England. The work has been vigorously pushed and is now ready for distribution. Dr. Leopold Schenk, the author, is a professor at the Imperial and Royal University and director of the Embryological Institute in Vienna. He has devoted twenty years to the investigation of the subject, predetermination of sex, and has verified his theories again and again by painstaking and exhaustive experiments. The translation has been supervised by Doctor MacKellar, the well-known English medical literary authority. According to Dr. Schenk, it is an easy matter to determine the sex of children. The rules laid down are explicit and easily followed. The Werner Company (Akron, Ohio), publishers. Price $1.50.

"The Revolution devoured its own children" was said of the French upheaval a century ago. The Temperance Record points out from the English Registrar General's Reports the significant fact that most of the old drinking places and houses of long standing are veritable slaughter-houses, one lessee after another dying or disappearing in the hospital and asylum, tenant after tenant coming and going, all dying or moving out diseased and ready to die. Both men and women seem to be destroyed after a few years' work in these places. The same history would be found in the older drinking places in this country.

A new work on "Nervous and Mental Diseases." By Archibald Church, M.D., professor of mental diseases and medical jurisprudence in the Northwestern University Medical School, Chicago; and Frederick Peterson, M.D., clinical professor of mental diseases in the Woman's Medical College, New York; chief of clinic, nervous department, College of Physicians and Surgeons, New York. W. B. Saunders & Co., publishers, Philadelphia, Pa.

In a study of the mortality of the persons engaged in the liquor traffic in Great Britain, it was found that the wives and daughters of spirit-dealers were more liable to inebriety and death than of persons engaged in other avocations. The mortality was even greater than among bar-maids and women directly engaged selling spirits.

Dr. Stupfer, in a paper on "Toxic Aphonia," published in Archiv fur Laryng. 1897, says: "Of all substances producing toxic aphonia *alcohol* occupies the most prominent place. Its effect upon the voice in an obscure way has been known for centuries. Aphonia can appear quite suddenly after alcoholic excesses, and equally suddenly disappear with cessation of

drinking. Its effects seem to be upon the peripheral ends of the recurrent laryngeal nerves, producing paralysis of one or both cords. Slighter grades of aphonia, such as the chronic hoarseness of confirmed inebriates, are of a different nature and result simply from chronic laryngitis."

The hypnotic action of alcohol is rarely recognized so clearly as in an incident described by Dr. Jonathan Hutchinson. He urged a friend to reduce the amount of spirits used. He answered that he could not sleep if he did so. It was true. Spirits acted as narcotic. He added the difficulty in such cases of convincing persons of the danger of alcohol. Such cases are not unusual and the pleasing effects may last for some time before other conditions appear. This dulling of the senses and sensory centers by alcohol is one of the effects overlooked in most cases.

Horsford's Acid Phosphate has become so prominent that it is used at all soda fountains as a healthful drink as well as a medicine.

Listerine is an indispensable remedy for all common uses in the household. No more valuable antiseptic can be found.

W. A. Baker, M.D., Clark's Mills, Pa., says: "I have had occasion to try *Celerina*, and am highly pleased with the results. I have used it with marked success in nervous prostration. A lady, sixty-four years of age, of nervous temperament, was stricken down with congestion of the right lung. After the congestion disappeared, her nervous system failed to recover, resulting in prostration. After trying several remedies, I commenced using *Celerina* and gave teaspoonful doses every six hours, with steady improvement, until restored to normal condition."

"Polk's Medical and Surgical Register of the United States and Canada" is now undergoing its fifth revision, and physicians who have not given their names to the canvassers

are urged to send them to headquarters at once. Address, R. L. Polk & Co., Detroit, Mich.

Arsenauro requires no special mention; for a century its merits have been extolled, and all the newer therapeutics bring increased evidence of its value.

Somatose is a most excellent meat nutrient in a powder form.

Wheeler's Tissue Phosphates is the great consumptive remedy of New England.

Bovinine is alone on the market, and its merits increase as it becomes better known. It has taken the place of beef extracts, and is infinitely superior.

Maltzyme is a new scientific preparation of malt put on the market by the well-known and most genial medical man, Dr. Fite of New York city. The value of the remedy is apparent from its popularity and increasing demand wherever used. It is found to supply a want in many cases of indigestion thought to be incurable before.

Fellows' Hypophosphites was considered a necessary supply in a Klondike expedition a few months ago. This and Rochelle salts were the only remedies taken.

Pond's Extract is an old and so well known preparation of Tinct. Hamamelis that its use both as a domestic remedy and as a prescription over the counter attracts no attention. It is not only very useful, but exceedingly valuable for all inflammatory states.

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The feeling of social degradation that is commonly felt by patients in Retreats and Public Institutions, who are subjected to the control of uncultivated nurses, is not experienced here. The utmost possible liberty is permitted, under suitable guardianship, to all the patients, and each one is regarded and treated as a member of a private family. Each case receives the attention and study given to private practice, and when needed the ablest medical talent in the country is called into consultation.

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A piano room, billiard room, bowling saloon, and ample stabling are provided on the grounds. The drives in the vicinity are considered delightful, and for healthfulness of location the Highlands are unsurpassed.

Dr. Ira Russell is the founder and superintendent of the Home, and letters inquiry should be addressed to Dr. F. W. Russell, the superintendent. For information we are permitted to refer to the following gentlemen:

C. F. Folsom, M. D., Prof. Mental Disease, Harvard College, 15 Marlboro St., Boston.
W. C. Williamson, Esq., 1 Pemberton Sq., Boston.
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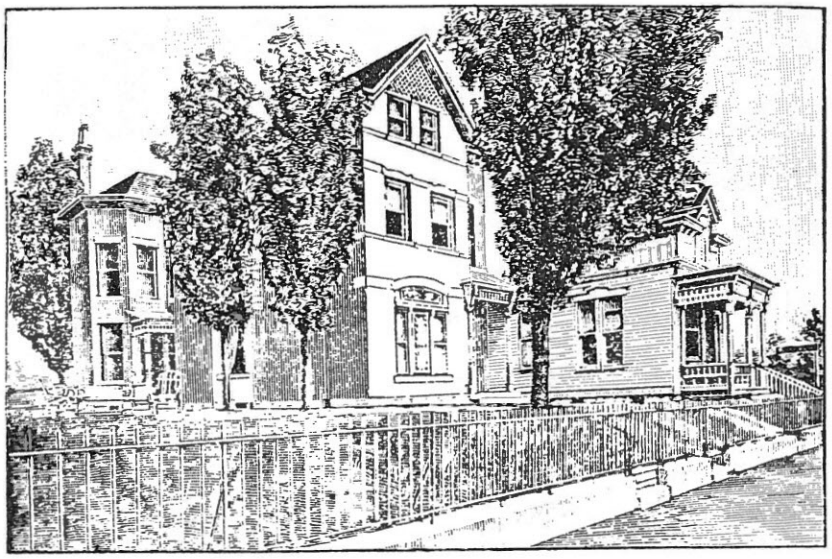

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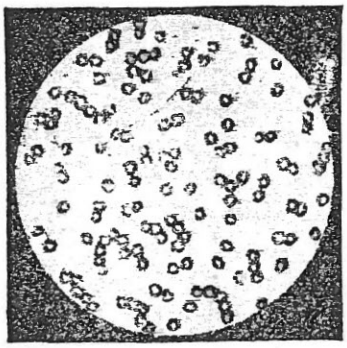

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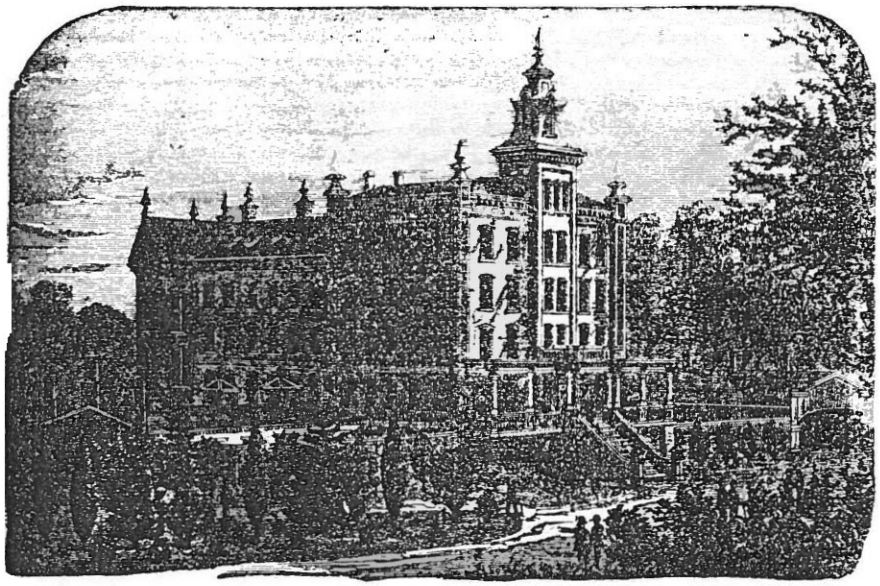

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